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Conservatism—A Review.*

By Frank Noyce, C.S.I., C.B.E., I.C.S.

In one respect at least, Mr. Ludovici is the typical Conservative. He is firmly convinced that he is the only person living who holds the true faith pure and undefiled and that the country is "going to the dogs". The state of England is "one of almost complete anarchy, kept in a condition faintly resembling order only owing (*a*) to the bad, impoverished or debilitated health of the individuals composing the nation, and (*b*) to their extraordinary inability to carry a principle boldly to its logical conclusion. A generation suffering from bad teeth, chronic constipation, tonsilitis, rheumatism and nervous exhaustion does not become obstreperous, no matter how inflammable its doctrines may be; and those who, in England, are too ready to glory over the fact that such crises as the late General Strike may be overcome without violence or bloodshed should bear in mind that there is such a thing as slow and silent decay—the disintegration that proceeds almost imperceptibly under a serene and polished surface—and that this may betoken less health, less vigour and less spirit than a violent and spirited outburst." For this gloomy state of affairs the Conservative Party cannot be acquitted of blame. It failed to rise to the opportunities which were presented to it from time to time in the eighteenth and nineteenth centuries of preserving the national health and character. Equally with the Liberal Party, it showed a lamentable short-sightedness in piloting the country through the vast changes of the Industrial Revolution. It has been no more zealous than its rivals in preserving or enhancing the authority of the Crown. It has not fought steadfastly for the maintenance of the hereditary principle and made a pusillanimous surrender of the powers of the House of Lords. It has done nothing to prevent the country being flooded by undesirable aliens and has manifested an unfortunate tenderness for the susceptibilities of the Jews.

The withers of those of his readers, whose memory carries them back half-a-century or so, will not be very seriously wrung by Mr. Ludovici's vaticinations regarding the nation's health. The English may still be far from an A1 nation but the evidence of their own eyes will be sufficient to convince them that the children of this generation are stronger and healthier than their predecessors. If they have any doubts on the point, a reference to the annual reports issued by the Ministry of Health should dispel them. From these reports, they will find that the death rate continues to decrease, that, whilst fewer babies are born, a far higher proportion of them are kept alive and in far healthier surroundings. The slum problem is still with us and the sins of the fathers are still being visited on their descendants of the fourth and fifth generations but both national and local authorities are more alive to its seriousness than they have ever been. There may be much that is disquieting in the state of present-day England but it cannot be seriously doubted that, in spite of the war and its aftermath, the country is both healthier and happier than it was a century ago and that, in spite of the terrible mass of unemployment, existing conditions present a striking contrast with those that prevailed in the "hungry forties".

Mr. Ludovici's attitude to miscenegation and the Jews is somewhat curious in view of his frank admission that he himself is the grandson of an alien who was naturalized under the Act of 1870 and of the fact that the greatest Conservative statesman in English history was a Jew. In the days of long ago, Angles,

* "A Defence of Conservatism": A Further Text-book for Tories. By Antony M. Ludovici, Faber and Gwyer, Ltd. 12*s*. 6*d*. net.

Saxons, Normans and Danes made their contributions to the greatness of England and Mr. Ludovici has completely ignored the elements of strength the nation drew from the Flemish who fled from the tyranny of Alva and the Huguenots who fled from that of Louis XIV.

Mr. Ludovici has an interesting chapter on Religion and the Constitution. He points out with some justice that protestantism and authoritarianism are strange bedfellows and holds that protestantism makes the subversive elements in Christianity more difficult to deal with than Catholicism. In his view, a reform of the Church of England, in the sense of establishing precision and unanimity in regard to its doctrine and ritual, would not only enhance the dignity of the Church but would also greatly enhance the prestige of the Conservative Party. He thinks that no Conservative policy can be complete which does not include a reconstruction of the Church of England along these lines. One wonders how far Sir William Joynson-Hicks would subscribe to this thesis!

There are many references to Disraeli in the book but it is a pity that Mr. Ludovici did not examine that great man's political philosophy in more detail. If he had done so, he would perhaps have realized that his own does not present quite as many novel features as he thinks. Disraeli also believed that in the strengthening of the power of the Crown lay the best hope of improving the welfare of the people. He also preached that true Conservatism was not synonymous with stagnation and mere negativism. It is the greatest tragedy in the history of the Conservative Party that, when Disraeli at length attained to a position in which it would have been possible for him to put his principles into practice, he was too old and too ill to do much to bridge the gulf between the "two nations" of which he had written so eloquently in "Sybil".

It is to be regretted that Mr. Ludovici has spoilt his case by over-statement, for there is much of value in his book and his party would do well to heed his counsel. He urges it specially to concern itself with the health of the nation; with the education of the masses, more especially in the proper use of their own language; with the question of over-population, a problem which should be approached from the qualitative standpoint; with the arrest of urbanization and the promotion of agriculture by the intensive cultivation of pasture land; and, finally, with the procuring of economic security for wage-earners. It is not a very lengthy programme but it is one which touches every aspect of the nation's life with one important exception. Mr. Ludovici has nothing to say in this book about the attitude the Conservative Party should adopt in regard to external affairs. India, for example, is nowhere mentioned. It is an astonishing omission.

"The Madras Agricultural Digest" says:—In the June Digest an extract was given from a Bulletin published by the University of Arizona explaining why cattle manure should be protected from the rain. The following extract from the same Bulletin explains why cattle manure cannot be altogether replaced by artificial manures now on the market and getting so cheap:—"A black manure extract was made by leaching well decomposed manure with water, and this extract was analysed for those elements that are ordinarily considered plant foods *viz.*, nitrogen, phosphorus and potash. A nutrient solution, the concentration of which corresponded exactly to the manure extract in these fertilizer elements, was then prepared from chemically pure salts in the laboratory. Wheat seedlings grown in the manure extract and in the nutrient solution were compared with others that were grown in distilled water. The nutrient solution produced plants that were better than were those grown in distilled water, but it did not produce plants so good as were those that were grown in the manure extract, judging by their size, colour, vigour, or weight." (The same result would have been got had paddy or cholam been used instead of wheat.) "There seemed to be something radically different in the manure extract that distinguished it from the nutrient solution. The difference in the plants was specially marked in the colour of the foliage and in the root development. It seemed impossible to produce a solution from pure salts that had all the properties of the manure extract." This shows that cattle manure or some organic manure *is essential* if we are to raise the best crops. Some cattle manure, green leaf, cake, or similar organic manure must be applied as a basal dressing. As this material is difficult to obtain in sufficient quantity, the best way to use artifical fertilizers is to employ them to supplement the basal dressing of organics. Apply some cattle manure, or whatever it may be, and augment this with the artificial nitrogenous manure and phosphate, but never apply these alone and think that they can entirely replace the organic manure. If this is done disappointing results will be obtained and the physical texture of the soil will soon deteriorate.

Success in Life.

By Sir Harry Lauder.

Some folk will tell you that success is a word with many different meanings. If you attain the thing you want, that is success; but as each one of us, almost, has a different ambition, it might seem that success would come in an altered guise to each.

There is a prevailing idea that wealth, bringing with it all the comforts and luxuries that it can purchase, is a hall-mark of success. Some look upon power as the summit of ambition, while others crave the applause of an admiring world. But in my opinion none of these things in itself constitutes success. There is only one kind of success which stands the test of time and events, which does not in the end turn to ashes like the fabled apples of the Hesperides. That is, in the achievement of happiness.

And this is an elusive possession. Money cannot buy it, authority cannot command it, and the worship of thousands cannot give it. It must be earned. Yet it comes indiscriminately to rich and poor, strong and weak, celebrated and unknown. It slips as easily through the garret window as through the palace gates. How, then, to gain this happiness which is the truest definition of success?

A Recipe Successful Everywhere.

In the experiences of my own life, ranging from the early days in the mines near Hamilton to the time of my present recognition as a comedian, the chief lesson I have learnt in my struggle for success is that it is to be found in making others happy. And wherever I have been I have seen in the lives of others that this recipe for success holds good universally.

You might think that I call this success, because it is my profession to keep people happy and amused, and my own fame increases the more I do it. But it is not restricted, this secret, to the comedian's calling. For whatever a man's station, when he comes to look back and weigh up his life, it is not the amount of gold he has painfully amassed, not the moments of triumph he can number, that bring the richest joys of reflection. The memory of a dozen kindly things said or done, or of friendships made stronger in moments of strain surpasses them all.

The very essence of success lies in this satisfaction of the mind. It is in this way that we rise above the beasts who eat and sleep and are content. And even judgment to appraise equally one's fortunes and mishaps is essential. But we must satisfy this mind of ours, and tangible things which go as easily as they come cannot do that for long. It needs the pleasant memory of a good thing we I done to make the mind—the final judge—feel the warm glow of success.

Do not think I scoff at such things as comfort, money and recognition. However ethically successful one may be, and however mentally happy, a life spent like a Spartan or a Stoic is not pleasant. No man is fonder of a good dinner, or a good cigar, or for that matter a hearty round of applause, than I am myself. I merely say that for the secret of success these are not the most important things.

Success Depends on Yourself.

Finally, I do not believe at all in luck or fate. I am impatient with the man or woman who says that success is impossible because circumstances prevent it. Success is never impossible—never entirely out of reach. If it is far away one must work a little harder—that is all.

Sitting down and railing at circumstances not merely fails to fetch it nearer, but is disheartening to oneself. It is not beyond the power of anyone to be happy by doing the job next to hand thoroughly and contentedly, and experiencing the craftsman's joy in seeing it satisfactorily completed.

In the words of Stevenson: "To travel hopefully is a better thing than to arrive: and the true success is to labour."

Nothing worth while comes to us except by our own vision and our labours. If we try hard enough for success we can gain it. If we do not, "the fault.... is not in our stars, but in ourselves."

The announcement by the Austrian Government that hydro-electric power plants will be exempt from taxation for the next 21 years, if installed within the next two years, has greatly interested the German electrical engineering concerns, and they are examining the possibilities of this development. Austria's resources of water power are estimated at 4 000,000 h.p., and as yet only half a million h.p. have been exploited. Austrian, Swiss, and German companies are now negotiating for concessions.

Next February construction is to be started on a large electric power station of about 100,000 kw. capacity in Upper Silesia, near Kosel on the Oder.

The Age of Machinery.

By Emil Ludwig.

When Alexander the Great marched to the conquest of India he took about one year to reach the easternmost point of his march; now-a-days you can fly from Angora to Calcutta in about three days. When Caesar returned from Egypt to Italy, he took three months: now-a-days a Lloyd steamer takes three days. When Goethe travelled from Weimar to Verona, he took two months; to-day it takes twenty hours. When Napoleon was retreating from Russia, the speediest horses took ten days for carrying him to Paris from Warsaw; to-day you can cover the distance by express train in thirty-six hours. When Lincoln journeyed from Indiana to New Orleans, his raft was three months on the way and a steamboat required one month; to-day you make the journey by rail in twenty-four hours. One hundred years ago it took six weeks to travel from England to New York; to-day it takes five days. Until last year the transportation of freight along the Congo from the interior to a harbour took three weeks; to-day an aeroplane brings it in one hour.

Spirit and Technique.

And yet intelligent folk, artists and romanticists of all sorts, have fought passionately against this speedy tempo, and they are still fighting to this day. In America, to be sure, this struggle between spirit and technique is little noted, since in America the technical tradition is older and the spiritual younger than in Europe—in America both forms of life began, so to speak, at the same time—whereas in Europe the great baroque castle upon which the European spirit continued slowly to build additions through 2,000 years has suddenly been shaken to its foundations by the new epoch that is tearing past it at mad speed. No wonder that in Europe this question is passionately debated; that all countries, all artists, minds with all sorts of points of view take part in it—for nobody gives up a strong position without a fight.

The European spirit, indeed, feels itself in danger from the new technical spirit. To begin with external manifestations of this feeling: it took the old European monarchs a long time to admit that an automobile was dignified enough for them. Old Emperor Francis Joseph of Austria-Hungary never entered an automobile, never had a letter written on a typewriter, never telephoned. When kings make a triumphal entry into a city they still sit in a carriage drawn by four horses—and, as for a funeral with a motor hearse, it is still a great rarity in Europe. Did not Ruskin drive through England in a mail coach as a protest against the non-sensical railway? And is there not even to this day a concern in Paris which arranges drives in horse-carriages through France in order that Frenchmen and foreigners may see the country slowly—in other words, really see it?

Goethe's Warning.

Therein certainly lies a piece of truth: the speed with which we rush past everything, with which everything rushes past us, must assuredly work to the detriment of the intensity with which we see things; the completeness and rapidity of the information brought to our brains must needs impair thought. Moving-picture films, by presenting an uninterrupted series of pictures rushing past very quickly, are a symbol of the sort of impressions which we get now that speed has become the goddess of the new era. Goethe foresaw this new century of ours when he called the future "velociferic". He warned mankind against a too rapid succession of reports and impressions; more than 100 years ago, when most newspapers appeared only once or twice weekly, he wrote that he foresaw a dreadful day when they would appear thrice daily.

It is only natural that the American who races across Europe in three months can see little in detail; that he finally wakes up at home amid the ruins of a whole series of hopelessly confused mental pictures. Had he used the three months in order to become really acquainted with a single one of the twenty-five countries visited by him, he would have derived richer profit from his trip. Modern means of transportation, by making rapid travelling possible, have lured Americans toward superficiality; they never know on their travels when they are going to return to Europe again, like most people, they wish not only to see a great deal but—even more—to have seen a great deal.

Another danger to the old spirit at the hands of the new technical spirit is the ease with which reproductions are made now-a-days. Now that we come across photographic reproductions of the Venus of Milo in the remotest Rocky Mountain shack, the power of the

original tends to yield more and more to the impression made by the copy, and those millions of persons who have never seen the former are quite unaware that the latter is merely a pale replica.

CIVILIZATION IN THE SAHARA.

In a Sahara oasis I found a many-hued copy of the "Mona Lisa" and it made me hesitate between a feeling of pleasure and one of fear. The precious nature of that which is unique, the holiness of that which is original, the reverence for the hand of the master—all these are fading away to give place to weak imitations.

And the better the imitations the more dangerous it is. One of the greatest connoisseurs of Chinese painting told me that he could scarcely tell any longer the excellent imitations of his favourite works from the originals—which means that all doors are being thrown open to counterfeiting.

When Edison spoke to me of how much he liked the German habit of playing music at home of his admiration for those quartets of music lovers which are the real expression of the passion for music of the most musical of all nations, I retorted that his gramophone was responsible for the fact that this sort of thing was disappearing more and more rapidly in Germany. Whereat he laughed in his hearty way, *for he realized at once that all I wished*, in speaking as I did, was to confront him with the debits and credits of his great invention.

STREAMS OF SENSATIONS.

Now that, in my lonely home in the woods, I can make the gramophone play to me almost in finished form the quartets of Beethoven; now that, by means of the radio, I am able to attend concerts in Paris, London and Vienna, it becomes apparent that the advantages of such a technical achievement are too great to justify my carping at the inadequacy of the reproduction. But when a young man in New York lured me into his motor car and showed me with tokens of much satisfaction how he could listen by radio, while motoring, to the latest jazz hits, and, at the same time, enjoy the details of the latest crimes supplied him in gigantic headlines by the newspapers handed to him as he drove, he seemed to me merely the most scatterbrained youth imaginable to appreciate in reality neither the road ahead of him, *nor the music, nor the newspapers*; capable merely of gliding quite blase along a warm stream of piled-up sensations.

Thus is man's memory being weakened! When people return from travels, from moving-picture houses, from listening to the radio to their own rooms and begin to undress before going to sleep all they retain, even for these most intimate moments of examination and retrospect, is an occasional word, tone or picture, bobbing up and down amid a fog of reminiscence. For such a person the echo of a talk, of a walk, of a glance at a starry sky, of a letter or a book is lost in the blur of a thousand fleeting images—wherefore, usually, such a person falls into a sleep without relation to the day he has lived, with the half-formed enunciation of a number on his lips.

Germany's Export Trade.

Including reparation deliveries, German exports exceeded imports by 44,000,000 marks in August and 81,000,000 in September. The improvement is partly due to a small decline *in imports of raw material*, but mainly to increased exports. The rate of increase has grown during the year, as is evident from the table below; altogether 1.1 milliard marks more were exported in January to September, 1928, than January to September, 1927, an increase of 15 per cent without counting reparation figures, which also show an increase. The increase is almost entirely in finished goods, semi-manufactures and raw material declining. The increase in 1928 over 1927 for the nine months was 17½ per cent in the case of finished goods.

The reasons for the improvement are many. The time for regaining markets lost in the war seems to have passed, but the good effects of the trade treaties concluded by Germany in recent years are becoming more and more evident. The growing depression in home trade acts as a stimulus to export, and apart from this, *as trade has become worse in Germany*, world markets have in many branches shown an improvement.

Reparation obligations naturally account for some of the continual increase in exports. They also stimulate private exports through pressure of taxation which they entail. The facilitation of export in every way is thus a matter of universal interest in Germany. Transport rates are eased, credits arranged, contingent liability accepted by official authorities, publicity at Leipzig Fair developed, in short, everything possible done to push export trade. The work is in process of being systematised, which will naturally further increase its effectiveness.

Public Health and Social Service.

By Sir John Thompson,

Chief Commissioner, Delhi.

The last 50 years have seen many wonderful discoveries. We have conquered the air and enslaved the vibrations of the ether and such discoveries must influence profoundly our material environment. But it is ideas and not facts which start great movements and the age we live in has seen the dawning of two ideas in the popular mind which are destined, I believe, to exercise a greater influence on the future of the human race—than any discoveries or inventions. These ideas are preventive medicine and social service.

Preventive medicine—and I use the term to cover all that is associated with it in the way of hygiene—is a *contradiction in terms*. The meaning of medicine is cure and you cannot cure what you prevent from coming into existence. Disease is not to be healed so much as *anticipated*—*scotched in the earliest stages*. In that idea lies regeneration—the coming race everywhere a 100 *per cent* better than the present one. Because every one is learning how he should live and why, what he should eat and why, and what he should wear and why, learning in a word to apply the idea to the whole life. And it is here that the discoveries come in as servants of the idea, as implements which it uses to effect its object.

Astounding Results.

In some countries the idea has already produced astounding results. In England for instance, in little less than a quarter of a century the infantile mortality rate, that is, the proportion of infants who die before they reach the age of twelve months, has been reduced from 170 per 1,000 to 70. And that does not mean merely that a hundred babies out of every thousand born have been saved from death. It means the raising to a higher plane of the whole standard of vitality in the nation, intellectual as well as physical. Recent statistics show that even in so short a period as ten years there has been a marked rise in the height and weight of English school children. When I was at Home last summer I visited some of the Council Schools in London. I remembered the ragged, towzled, unwashed board school boys of thirty to forty years ago. I find their successors to-day almost unrecognizable, smart, well-groomed, clean, healthy and intelligent. The boys of to-day in England are better than their fathers were. It is the results in the main of the spread of the regeneration idea of which I spoke—the application of the resources of medical and hygiene science primarily to the prevention of disease.

Health Education.

And the question I asked myself when I saw these boys was, "what is there to prevent the same improvement in India?" and the answer, I think, must be that the idea has not yet taken root in the popular mind. The spreading of ideas is one of the aspects of what we call education and this meeting originated *in an enquiry I made soon after I took over* charge in regard to the state of health education in the city. Hygiene is taught as a subject in the higher classes of schools and it is an optional subject for matriculation and other examinations, but the teaching I am told, is inadequate and there is no systematic inculcation of health habits among the younger children. What we have got to do is to improve the teaching everywhere under the inspiration of the vivifying idea and, as I said the other day, to make every child an apostle of health in the home. It is, I think, to the children and the women that we have to look mainly for the revolution we desire. Many methods of work suggest themselves—*leaflets, cinemas, lectures*, purdah meetings and so forth—and something has already been done both by the official and non-official agencies. But so far we have only touched the fringe of the problem and I feel that if we gather together in one organization representative enthusiasts of all classes and creeds, we shall be able to help the organizations which already exist and extend health effort to those portions of the field which are as yet unoccupied.

Social Service.

The second of the great ideas to which I referred is that of social service. It is this idea which has inspired the Boy Scout and Seva Samiti movements and our League of Social Service in Delhi. And in England the great results achieved by the National Federation of Women's Institutes and the National Union of the Social Service are due to the same inspiration. The field covered by these societies is enormous.

The National Federation of Women's Institutes was founded during the war and by the middle of 1925 there were over 3,000 of these institutions scattered over England. Besides health work they arrange for teaching arts and crafts, dress making, cooking, embroidery and a dozen other subjects and for lectures on history and literature. In many cases they have built village halls or contributed to the building of such halls and they are now a feature of the life of the country.

The National Union of Social Service under the Presidency of the Speaker of the House of Commons makes it its object to effect a liaison between non-official and official agencies.

But all these societies aim at one ultimate ideal, that of making the lives of their fellowmen more healthy, more happy, fuller and more useful, in a word the ideal of service. Turning to Delhi the Chief Commissioner said, "There are already in existence a number of societies which are doing what they can to deal with one or other particular branch of social service. Their existence proves that there is in Delhi a fairly widespread desire for social service though the members would themselves be the first to admit that the sum total of their efforts is very far below the needs of the city and the province. This is partly owing to lack of funds and workers, partly perhaps also to the fact that the workers are not always in direct contact with outside experience and partly I think to the want of such an organization as we propose to create to-day. Let me try to give you some notion of the gaps which we have to fill

Slum Clearance Scheme.

We have a slum clearance scheme before us in Delhi. What do we know of the life of those who live in the slums? Let our college students of economics try to supply the want by making surveys of the conditions of life in these areas as university students in other countries are doing. We know that there is overcrowding. We know that the spread of tuberculosis is due perhaps more to this than to any other single cause. But what statistics have we of the poverty which leads to the overcrowding. Is there any society here which has yet made a study and the methods of slum clearance, the manner in which provision can best be made not only for overcrowding the slum mind but for providing accommodation during the interval between evacuation of the old and occupation of the new? Again there is the question of enabling the poor both in towns and villages to supplement their earnings by cottage industries. There are, I believe, some devoted ladies in Delhi who are making experiments of this nature. Some of them possibly would be able to give us the results of their experience so that we might be able to apply them elsewhere. These are merely a few chance examples, pebbles on the beach, and there is no one in this room who would not be able to add to the list from his own experience.

Propaganda Essential.

Although we propose to take the whole field as our province, the function of such an organization as we contemplate is not to supersede any existing institutions. It will help them to operate up to the limit of their capacity and it will endeavour to secure that those portions of the field which have not yet been occupied shall be effectively organized. As far as possible we hope that all existing societies will be represented on our committee. To co-ordinate, to stimulate, to suggest, to popularise and to supplement, that is our programme. Nothing can be done without propaganda vigorous and unceasing. The propaganda must rouse popular interest, excite popular demand and what this Health and Social Service Union will, I hope, ensure for Delhi is that this work will be carried on with all the focussed enthusiasm of local patriotism and all the focussed light of local knowledge.

An interesting account of how the groundnut industry is being built up in the Gambia appears in the annual report of the Department of Agriculture for 1927-28. When the Department was established four years ago it had to grapple with the fact that for years previously exports of groundnuts had steadily declined. This decline, in the opinion of those most competent to judge, was due to the "strangle-hold of the French railway, the extension of which enabled French nuts which formerly came into the Gambia to be sold at the railhead instead of being conveyed to our wharf-buying stations along the river." The Department first aimed at improving the quality of the crop, which at that time contained an average of 8 per cent of adulteration. Its efforts were successful in reducing adulteration to within the 2 per cent allowed by the trade and the Colony, and, although the French railway still exists, and there are other adverse factors, exports during the last three years have steadily increased. The figures for 1927-28 were 75,886 tons, compared with 46,583 tons in 1924-25. Equally satisfactory, the improvement is expected to be maintained.

International Conference on Economic Statistics.

Work before the Convention.

League of Nations, Geneva, 19th November, 1928.—The Diplomatic Conference, convened by the League of Nations for the 26th of November, will meet in Geneva for the purpose of drawing up a Convention under which the Contracting States will undertake to compile and publish regularly various classes of economic statistics and to adopt uniform methods in the compilation of statistics with a view to achieving comparability.

The purpose of this Conference is, therefore, to improve the present practice in economic statistics by enlarging the scope of statistics and by stimulating concerted action in statistical methods.

The drafts submitted to the Conference have been drawn up with sufficient elasticity to admit of local developments. They have been framed in such a way as to ensure the improvement of statistics by logical methods and in conformity with the public interest.

M. William Rappard, Professor at the University of Geneva, will preside over the Conference. So far 40 States have announced their intention of sending representatives to the Conference. They are :—Austria, Australia, Belgium, Bulgaria, Canada, Cuba, Czechoslovakia, Denmark, Danzig, Ecuador, Egypt, British Empire, Estonia, Finland, France, Germany, Greece, Holland, Hungary, India, Italy, Japan, Jugoslavia, Lithuania, Luxemburg, Mexico, Nicaragua, Norway, Paraguay, Poland, Portugal, Roumania, South Africa, Sweden, Switzerland, Turkey, the Union of Soviet Republics, United States of America, Venezuela and Siam.

Siam will send an official observer. The other States will be represented by fully accredited delegates. It is noteworthy that among the States who have signified their intention of participating in the Conference appear the names of six who are not Members of the League of Nations

The International Institute of Agriculture, the International Chamber of Commerce and the Communications and Transit Organization of the League of Nations will send delegates who will take part in a consultative capacity.

Preparatory Work.

For a long time Governments and industrial and commercial circles have recognized the importance to the general welfare of countries of statistics showing the economic position and development in the world as a whole, and in different countries, and of the necessity of compiling such statistics on an agreed basis in order that the results may be comparable. Some progress had been made in this direction before the war, but it remained to advance and generalize the work already accomplished.

The Economic Committee of the League of Nations, therefore, took up this work. After 1923 it co-operated with the International Institute of Statistics in setting up a special committee to define the basic principles for the compilation of economic statistics. The recommendations of this Committee were first examined in sessions of the conferences of the International Institute of Statistics and then transmitted by the Council of the League of Nations to all the collaborating Governments. In February 1927 the Economic Committee put forward a proposal to the Council of the League of Nations that:

"Steps should be taken in the near future with a view to bringing more closely to the notice of the various Governments the importance of adopting uniform methods in the compilation of economic statistics, and of ascertaining to what extent each Government is prepared to apply the principles which have been laid down."

For this purpose it recommended that a Conference should be convened to which all Governments should be invited to send official statisticians.

The Council of the League of Nations in its session of the following March approved the procedure suggested by the Economic Committee.

The International Economic Conference which met in May of the same year emphasized the importance of statistics on trade, industry and agriculture. It passed several resolutions on this subject which were sent for execution to the economic organization of the League of Nations.

The Economic Committee directed a Sub-Committee of Experts, composed of 4 of its members and 8 others, experts from important international organizations dealing with statistics and certain national bureaux of statistics, to draw up an agenda for an International Conference.

As a result of the work of this Sub-Committee the Council of the League of Nations decided, at its session of March 1928, to convene a

Conference of official statisticians. The broad lines of the programme drawn up for this Conference were to be as follows:

"(1) The scope of economic statistics, *i.e.*, the field of economic activity which it is desirable that national statistics should normally cover.

(2) The methods to be applied by Governments in the compilation of industrial and commercial statistics in order to achieve comparability."

It was on this basis that the preparatory documents of the Conference were drafted by the Secretariat.

DRAFTS SUBMITTED TO THE CONFERENCE.

The chief documentations submitted to the Conference comprise a draft convention, a draft protocol and a draft recommendation with annexes.

(1) *The draft convention* comprises 16 articles grouped in three chapters, the first dealing with the scope of statistics, the second with statistical methods and the third with general provisions.

Chapter I of the preliminary draft enumerates the classes of statistics which the Contracting States undertake to compile and publish. These are as follows: statistics of occupations (professions and trades), business arrangements (industrial and, if possible, commercial), industries (production), index numbers of prices, external trade and shipping.

For each of these classes the Contracting States will undertake to publish certain minimum information regularly prescribed by the convention.

Chapter II describes the methods to be employed in the compilation of statistics in order to facilitate international comparisons. The articles to which the Contracting States will be invited to adhere concerning the methods to be employed in the compilation of international trade statistics, indices of industrial activity, fishery statistics and the census of industrial production are based directly on the resolutions adopted by the International Institute of Statistics: and the tables dealing with mining and metallurgical statistics on the Report of the Governors of the Imperial Mineral Resources Bureau.

Chapter III contains certain reservations tending to assure some elasticity in the conventions adhered to. This flexibility will be assured by means of a certain number of reservations or exceptions which would first of all be submitted to the Contracting States as well as to a Committee of Experts whose creation is envisaged. Besides dealing with questions arising from the reservations to the convention, this Committee of Experts would devote itself to the task of encouraging the future development of national statistics according to methods which will facilitate international comparison. The usual arrangements for the settlement of disputes arising from the interpretation or application of the provisions of the present convention are made, namely resort to a technical department of the League of Nations for conciliation or arbitration and for judicial regulation appeal to the Permanent Court of International Justice.

(2) *The Protocol* which accompanies the preliminary draft convention makes several suggestions with reference to the scope of this convention. It specifies that the term "economic statistics" is to be taken as excluding purely financial statistics and as including certain classes of statistics of importance for the study of economic life (such as statistics of occupations). It observes that the agreement with regard to statistical methods refer to certain classes of statistics to which the articles of Chapter I do not apply. Thus the convention would influence the methods employed even for certain statistics which every country cannot yet undertake to compile and publish. With reference to the compilation of general censuses of agriculture, the Protocol refers to the work of the International Institute of Agriculture. As for fisheries it points out that the provisions of the convention are a practical minimum for those countries in which the fishing industry is of importance. Finally, it makes provision for the Contracting States to attach certain reservations to their signature of the convention.

(3) *The draft recommendations* which will be submitted to the Conference point out the usefulness of elaborating official statistics so as to facilitate the compilation of estimates of national income at regular intervals: of publishing statistical series at regular intervals of such a character as to indicate the variations of economic activity in the widest sense of that term; of collecting and publishing returns of the visible stocks of the more important raw materials in industry. Further, in view of the fact that statistical nomenclature is usually based upon the Customs nomenclature current in the country, it would recommend that States postpone any modification of statistical nomenclature until the work being done by the League of Nations for the unification of Customs nomenclature be completed. In the meantime the summaries approved by the International Convention of Brussels, 1913, may well

be used as models for the information to be furnished by the States to the International Bureau of Commercial Statistics at Brussels. It would further recommend that a census of production should be taken in every country either of all its industries or of its chief industries, and that supplementary censuses be added to these as frequently as possible.

(4) To complete this brief analysis of the documents which are submitted for the approval of the Conference, one must also mention the annexes to the draft recommendations which supply very accurate technical material on the methods recommended with reference to:—census of industrial production, indices of industrial activity, fisheries statistics and tables dealing with mining and metallurgical statistics.

On this last point the Conference will record its opinion on a series of formulæ elaborated by the Imperial Mineral Resources Bureau (British). The International Chamber of Commerce has brought up for study the question of statistics of mining industries, minerals and metals. This has been thoroughly investigated by special sub-committees which included a certain number of competent industrialists. The formulæ established by these sub-committees will also be submitted to the Conference.

The action of the International Chamber of Commerce emphasizes the very considerable interest with which the world business views the work of the Diplomatic Conference of the 26th of November.

Production of Railway Material in India.

By Col. K. M. Kirkhope, C.I.E., V.D., M.I.C.E.

[An interesting picture of India as a producer of Railway material was drawn by Colonel K. M. Kirkhope, C.I.E., V.D., M.I.C.E., Chairman of the North-West India Association of the Institution of Engineers (India) at its annual meeting. We give below a part of it as it is of great interest. After saying that India can absorb every well-trained Indian mechanical engineer likely to be trained for many years to come, Col. Kirkhope advised those who intended taking up the professoin not to pay too much importance to the college workshop. Their real training is in the practical field, and it is on the practical side that the Indian engineer generally failed. The need for mechanical engineers was never so great in India as it is now, and the demand must steadily increase. "I should like to see Indians first go to workshops, then to college, then back to the workshops—but much will have to depend on circumstances."—Ed., M. E. J.]

I propose to consider India as a producer of Railway material. Now India is an actual but, still more, a great potential producer of the materials which go to form railways. We have first the permanent way. The rails are produced in India in quantities rapidly catching up with requirements. The fish plates, the fish bolts and nuts are also all produced here. The sleepers, whether steel or cast iron, are produced in India, the Sal sleepers and deodar sleepers with the creosote to preserve them are all the products of the forests and factories of India. Ballast is plentiful in most places and there is now a scientific means of testing it. Points and crossings, interlocking gear, signal posts and electrical signalling apparatus are common manufactures of the country.

Bridges of practically all types and sizes are now made in India and greatly of Indian steel, cast iron or cast steel. In screw pile bridges the cast iron screw point and cylinders are cast in India of Indian pig, the girders are of Indian manufacture and Indian steel. At the present time the largest girders ever made in or for India are under construction in Calcutta. Recently, too, a bridge of unique construction for India was manufactured in India; I refer to a three-pin arch span for bridging a deep rocky gorge. In this an interesting problem cropped up. It was of such height and shape that fabrication had to be done with the half arch lying on in its side and the sun on the upper half so distorted the steel that no measurements could be taken, hence the inspector had to inspect before the sun rose.

With these components we have now practically completed the permanent way with Indian material, but we have yet to provide supply services. These are the water columns, pumps, pipes, water tanks of cast iron, steel or ferro concrete, all made in India. Turn-tables, engine sheds of steel and corrugated iron, or partly of bricks, again of Indian manufacture. The fencing posts and wire, the latter now under, let us hope, a temporary disability, the permanent way tools such as beaters, powrahs, hammers, are also products of India. There is the railway track with services complete; now let us turn to the carriages and wagons.

We may start with goods stock. Here we

have all the steel work for underframes, sheets for sides and roofs whether plain or corrugated and galvanized, of Indian manufacture. Springs from steel melted in electric furnaces and rolled to section, axle boxes of cast steel from electric or open hearth furnaces, axles from the Ordnance Factories, high grade steel, heat treated, draw bar hooks and couplings with a 5-foot ton impact testing machine to test them, vacuum brake gear except the rubber, all made in India. The rubber, or at least much of it, was made in India and, it is hoped, will be a gain. There is the complete wagon but for the wheels. These demand elaborate and most expensive machinery both for the wheel centre and the tyre, but we may hope to seem them of Indian manufacture.

For the production of wagons in India there are workshops laid out for mass production of standard vehicles and given a flow of orders over a period of years these should rapidly compete with the world in price and quality. Turning now to passenger vehicles, we have the same components of the underframes as for wagons, manufactured in India: the details differ little except that passenger vehicles are practically all carried on bogies, while the reverse is the case with goods vehicles. So far as the underframe is concerned, India is a producer and several workshops are equipped for the purpose, the latest on elaborate lines for rapid standard production, using jigs, templates, multiple drilling machines, electric rivet heaters, gas flame cutters cutting to template, and every modern appliance.

In body work, although steel is being tried experimentally, teak still holds its own, a product of India, and one much as Railway men have sought it has not been possible to better. Paints of the highest quality with practically every ingredient, turpentine, linseed oil, white lead and colouring matter are now established products of India. Leather cloth for covering cushions is struggling for existence and I hope will survive. Various components such as the electric wires, coat hooks, door bolts, lamp bowls are also of Indian manufacture, but there is still ground for a very extensive expansion and the passenger vehicle is not yet the complete product of India.

With regard to the locomotives, these have been partially built, from time to time, in Railway workshops and one Railway workshop is regularly manufacturing the engines for use on its own Railway, but this is exceptional. It by no means follows, however, that an industry is not possible. Given the demand the industry will certainly follow. Some of the most complicated and difficult parts are manufactured in India now. Now that the embargo on basic steel is raised and acid steel no longer insisted on for boilers, India is a potential producer and certainly can produce all the plates required for frames, tenders and other plated work, also steel castings for axle boxes, bogie centre pivots, frame stretchers, spectacle plates, drag boxes and other parts.

Copper plates, copper or brass tubes, iron tubes and similar components are not made in India. We may expect shortly to have copper produced in India, but it seems certain it will be long before the sheets required for locomotive work are produced. Zinc, lead and tin, all important component metals, are Indian produced, but zinc is not refined and has to travel many thousands of miles for refining before it comes back to India to find its place as a component of a locomotive bearing or in the batteries of a signalling apparatus.

We have in imagination very nearly built and equipped a Railway of Indian material and by Indian labour. It is not all a castle in the air, but why, if the potentialities are so great, is India not a flourishing engineering nation?

Those who follow the steady development of co-operative trade with some anxiety will learn with interest that the report and balance sheet of the Co-operative Wholesale Society for the half-year ended July 7, just issued, show that the total sales for the half-year were £43,209,788. The weekly average was £1,661,915, as compared with £1,522,172 last year, being an increase of £139,743 per week, or 9¼ per cent. The total supplies from the various productive works for the half-year were £14,046,320. The net surplus in the trade department for the half-year, after providing for all expenses of production and distribution, interest on capital and depreciation of property according to rule, amounted to £741,371.

The banking deposits and withdrawals for the half-year amounted to £347,807,649, an increase of 3¼ per cent. The surplus for the half-year is £76,974, to be transferred to reserve. There are only 30 distributive co-operative societies that do not bank with the C.W.S., and most of these are small societies with less than 500 members. The sales of the three more important branches at Manchester, London, and Newcastle-on-Tyne showed a weekly average increase of 7¾ per cent, 14½ per cent, and 3¾ per cent respectively.

Recruitment to Public Services.

By W. R. Barker, C.B.,*

Chairman, Public Service Commission.

I highly appreciate the honour which has been done to me in inviting me to address the Convocation for Patna University but I do not nourish the delusion that the invitation is due to any merits I possess. Neither my learning nor my eloquence would entitle me to claim a hearing from the gathering I see before me, but I represent the Public Service Commission and the significance of the Public Service Commission to the University of India, and I should add of the Universities of India to the Public Service Commission, is undeniable. Whatever may be the merits or defects of that body, I can say with perfect confidence that it stands for one ideal, namely, to get the best men it can for the public services in India irrespective of every other consideration; and I can only express my profound conviction that unless that ideal is relentlessly followed in the face of all opposition, every influence and every obstacle, all those schemes which have been and are being constantly devised for the prosperity, good government and advancement of India, to whatever subject they relate and from whatever quarter they proceed, are bound to come to naught. The first essential of good government is an intelligent, impartial and high-minded Civil Service

In England we have been so long accustomed to a Civil Service, which for integrity and zeal is unsurpassed in the world, that we have almost forgotten our troubles of a century ago when the Civil Service was a nest of nepotism, corruption and incompetence. We cured all that and we cured it, in the only way in which it could be cured, by setting up a body of Civil Service Commissioners corresponding in some aspects very closely to the Public Service Commissions in India. Those Commissioners are in practice independent of the Government and the all-powerful remedy for the evils which they encountered was to make competitive examination the main avenue to public employment. That system has given us the Home Civil Service at home and the Indian Civil Service in India and if there is any method of getting a better service than these two great services, I should be glad to hear of it.

* Convocation Address delivered before the Patna University, November 1928.

COMPETITIVE EXAMINATION.

We in England have had time to forget the evils of jobbery and private patronage from which the examination system delivered us: and some of those who are conscious of the evils of the present and have forgotten the evils of the past now decry the examination system and advocate a system of appointment by selection. I have seen the system of selection at its best and I confess that when I came out to India I had some leanings in that direction myself; but every day I have spent in India and every atom of experience I have acquired of the conditions of this country have convinced me more and more that the system of competitive examination is for this country both the fairest and the most effective way of staffing by the public services. In saying this I must make it clear that I am expressing no opinion on the question of communal representation. That is a matter quite outside the ken of the Public Service Commission, a matter in which they merely follow directions they receive and as a practical matter no difficulty attaches to competitive examination within a particular community.

Some I have met in India, and I am afraid, far too many go very much further and positively prefer the appointment of uneducated men to the public service and seem to regard education as a virus, which when introduced into the body, swells the head but atrophies and enervates virility, energy and self-reliance. In this they are unfortunate enough to disagree with Solomon who said:—

Give instruction to a wise man and he will be yet wiser; teach a just man and he will increase in learning, and again through wisdom is an house built and by understanding it is established and by knowledge shall his chamber be filled with all precious and pleasant riches. A wise man is strong, yea, a man of knowledge increases strength.

I am on the side of Solomon. For nearly every function in life, even the most undistinguished, I prefer an educated to an uneducated man; and if the heresy to which I have referred were well founded it would involve a negation of everything for which the University of Patna and the Universities of India stand. The vast sums which have been lavished out of the scanty resources of Government

and the smaller sums which have been lavished out of the vast resources of individuals, would indeed have been ill-spent if the Universities of India were unsuccessful in producing the best candidates for the public services. To those too who maintain that in the choice of public servants no importance should be attached to academic brilliance or to some lower standard of academic attainment, requiring great perseverance, hard work and self-denial, I will only say that no crueller wrong could be done to the youth of India than to encourage them to come in their thousands to Indian Universities and then dispute their entry to the Public Services.

I stand, therefore, before you as an unabashed advocate of the system of competitive examination for the purpose of manning the public service of this country. I am under no illusions about competitive examinations and can be under no illusions, possessing as I do an inside knowledge of them. In this world we can only aim at the best: we cannot hope to attain perfection and, in spite of all its defects, I am of opinion that for India as it is the system of competitive examinations is the best and any other system is, as a general rule, not only not the best or even the second best but definitely bad.

In India as elsewhere there are many people who are content to repeat what their fathers have told them and without regard to changing conditions, to reiterate at the conclusion of their service the words of wisdom they heard from their seniors dating almost back to the mutiny in the days when they themselves were juniors. Those who are seldom brought into contact with the young graduate of the present day often repeat to me the old and perhaps one true legend that the Indian graduate is a creature with an infinite voracity for learning text-books by heart without understanding their contents. There may be graduates of that kind even now. I do not think I have ever met one, but I may say that when I do I shall take the greatest pains to see that he is not successful in any examination organized by the Public Service Commission. I see every year many graduates from every part of India in the official capacity of an examiner and sometimes I am privileged to see them in an unofficial capacity. In an official capacity I am not always very happy. I have to ask many hundred questions and I am painfully conscious that the examinees must think my questions very foolish. I have to judge them, but I know that they are judging me and I can only hope that they extend the same clemency to me as I invariably extend to them.

INDIAN GRADUATE IS A REALITY.

In a non-official capacity there are a few things I enjoy so much as a free interchange of talk with a group of Indian students. It is on this experience, which is in its way unique, since I know of no one outside the Public Service Commission who has constant opportunities of seeing the students of all the Universities of India, that I base my judgment. To many the Indian student is an abstraction and you find out all about him by reading quinquennial reports. He is a fertile theme for notes and in private conversation the problem of his future is too often solved by an anecdote faithfully passing down from generation to generation. To me he is a reality and having studied that reality to the best of my ability during the short time I have been here, I say that I have no fears or trepidations as to the future of the public services in India so far as that future is dependent on the material which emerges from Indian Universities at the point at which it emerges. The best of them are to my mind as satisfactory a body of young men, active, intelligent and virile as you may wish to see and there are enough of them to man the public services which are my chief concern. I will therefore not speak of the worst.

But the question still remains what is to be done with the Philistines who decry your accomplishments and dispute your powers and who are all for the strong, silent, very stupid and uneducated man. Samson had a short way with him He slew a thousand *Philistines with the jawbone of an ass.* That remedy is not open to you for two reasons *entirely outside the Indian Penal Code.* The first is that there are too many Philistines and the second is that you have not got the right kind of jawbone.

DO HONOUR TO THE UNIVERSITY.

You must proceed in quite a different way and so order your life and future conduct as to demonstrate to the mean intelligences to which I have referred that their criticism is entirely baseless. It is of course a truism that though many Universities are excellent, and Patna is of course among them, there is only one perfect University and that is situated at Oxford and any one who has been lucky enough to be educated in that city is prone to judge all other Universities by the standard of that peerless place. In the light of that comparison a doubt sometimes occurs to me whether the students of Indian Universities are sufficiently conscious of their high calling, of the great privileges which entail corresponding

responsibilities and of the magnitude of the tasks which will confront them in after-life, tasks which cannot be performed without adequate preparation. To-day the University has conferred on some of you, its students, the honour of its degree. To-morrow it will rest with you to do honour to the University. The graduates of Patna University represent a few thousand educated men among thirty-four million less educated or uneducated throughout the province. You are the leaven which must leaven the whole lump. In the years to come much of the happiness and prosperity of the province will depend on you. You will hold the position of authority, with you will rest the decision whether the province will progress or fall back in the race. Your task is to be envied. Your work is beginning and no one can look at any province in India without realizing that there is much work to be done Villages require sanitation, housing, cleanliness and beauty. Ignorance has to be dissipated, agriculture enriched with expert knowledge The hatred of race for race and of religion for religion must be abated. Industry and commerce must be encouraged as a living found for the ever-increasing millions of India Those who think that all this is work for Government and Government alone, are much mistaken. The best work has always been done by individuals, independent of Government and without the well-organized support of well-educated men, vigilant, eager and helpful. Government can do but little. The chief source of the strength of the public life in England has been the existence of a large body of men independent of Government who are willing to undertake arduous public duties and perform them laboriously and conscientiously without hope or expectation of reward.

ARE YOU WELL EQUIPPED FOR THE TASK ?

Are you well equipped for the task which is before you? You have had three or four years at the University and in those years you had had more leisure than you are likely to enjoy again in your working life. You have been at a University, a place which should be dedicated to eager inquiry, constant speculation, free discussion and ripening studies. Have you availed yourselves of your opportunities? Have you pondered deeply on the difficult problems of Indian life, have you thought constantly how those problems are to be solved? Have you taken pains to winnow truth from falsehood and, by slow and painful processes of thought, arrived at your own conclusions which, whether they be right or wrong, are for you the only valuable conclusions? Have you in your walks abroad been quick to note what is amiss and to consider the remedy? Have you been careful to observe the toil and the difficulties of the peasant in the fields and the devices he employs to keep us all alive and do you offer your thanks to him and dedicate your services to him as the sole bulwark between yourselves and starvation? If so, you will go into the world as worthy sons of the University whose work will do it honour.

Or have you put all this on one side, been content to be guided by cheap catchwords, *pro and con*, to be deluded by shibboleths which you repeat without understanding? Have you treated the golden years you have spent at the University as merely an avenue to a job in the Government service having attained which you can rest contented reaping increment and promotion as they come in their due season, doing that minimum of work which averts censure and avoiding as far as possible the toil and the strife which make life worth living? If this is your intention you may have a happy and prosperous life, but you will do your University no honour and your province no good. It is of these that the poet writes :—

The earth's high places who attain to fill
  By most indomitably sitting still,
(and again he wrote their epitaph)
  Find in the golden mean their proper bliss
And doing nothing never did amiss
  But lapt in mean's good graces live and die
By all regretted nobody knows why.

This is not the way in which India has attained such greatness, such peace and such order as she enjoys at present. The English may have many faults, but at least they cannot be charged with apathy, carelessness or failure in a sense of duty. Some sixty years ago Sir George Trevelyan said of the Englishman in India : "The public spirit among the servants of Government at home is faint compared with the fire of zeal which glows in every vein of an Indian official." I have been a servant of Government at home and I know the zeal of these servants. If that real is but faint in comparison with that of an Indian official, I can only say that the zeal of an Indian official must be as a consuming flame. The public services of India are being rapidly Indianized and I realize without complaint that many changes must come and things must be fashioned in a different mould. I have only one thing to ask and that is that in a country where zeal receives little encouragement the Indian official may be consumed with the same fiery zeal

for the good of his province and the good of India as consumed the English official of old.

What a University Should Be.

I have visited most of the Universities of India and that which I am about to say has no special reference to Patna, but I have sometimes felt a doubt whether it fully realized what a University should be, what opportunities it should offer and what is its mission in the scheme of a national life. It is not a place to which a student should resort merely to spend laborious days, plodding his way to a degree which is valued merely for itself and not for what it connotes. Such a man takes away from the University a degree indeed, but little which is of value either to himself or India. A University should be the great civilizing agency of the area which it serves and its students should be in the forefront, the natural leaders of the province in all its higher aspirations, the betterment of the condition of the people, the improvement of political life, the removal of social evils. If they do not undertake this task who will? Now a University should manufacture a product which is perfectly adapted for these purposes and that is the ordinary well-educated man, and in the long run a University will be judged by the type of ordinary well-educated man it produces.

University—A Place of Study.

By such a man I do not mean a man who accumulates first classes and medals and leaves the University well trained in the subject but with a mind which is a blank on all subjects outside his special course of study. First classes have a value and their achievement indicates that their holder has passed through a mental discipline which should be useful to him throughout life; but few of us can spend our lives in the subjects we studied at the University and a man who leaves that University knowing one subject and one subject only, enters the battle of life at the most serious disadvantage like a bird with one broken wing. The mental discipline remains in after-life and is valuable, but the actual knowledge which is acquired is in respect of many subjects, valueless and soon forgotten. It has often happened to me to ask a student of physics, for instance, the most ordinary question of every-day life, such a thing as every school-boy ought to know as Macaulay would put it. He will profess his ignorance and say to me with surprise not unmixed with resentment, "You forget, Sir, I am a student of physics", as though a student of physics could claim by right to be abysmally ignorant of everything else. This attitude is not exceptional, it is common. I attribute it partly to excessive absorption in learning things the wrong way. I am under the impression that students attend far too many lectures and take far too much trouble to find out what the lecturer thinks and far too little to think for themselves. English literature, if properly pursued, is the most humanist of studies but unless it is studied in an individualist mood, it becomes unutterably stale as a means of education. I often ask students what they think of this or that author and I hardly ever get an answer. They are eager to tell me what Mathew Arnold or Thomas Carlyle or Bernard Shaw or their teacher thinks of an author but what they themselves think they do not know. If you read an author without forming an opinion of him your reading is worthless. To search for truth is the first essential of true learning. If you hate Shakespeare as many great and good men have done in the past, it is much better to say so than to repeat the stale encomiums of some text-book writer in whom you don't believe. I have only met one Indian student who confessed that he hated English literature and he was not telling the truth. I asked him why he hated it and I soon discovered that he had a very passionate appreciation for its beauties. The reason for his outburst was that he had given up English literature, because it was so hard to get an honour's degree in it and had taken up another subject which he cordially detested. He and all other Indian students should ponder that message from the "Taming of the Shrew":—

No profit grows where is no pleasure taken
In brief Sir, study what you most affect.

Every student on entering the University should consider what study he most affects and pursue that. Every such student should be careful not to inquire in what subjects it is easiest to get a degree. If this rule were observed I should not see so many obvious misfits as I have seen at some examinations, students taking up physics whose aptitude is for history, students taking up law whose passion is for botany, poets devoting themselves to the study of economics. Study those subjects in which you take pleasure. If there is no subject in which you take pleasure, the University is no place for you. The University should be a delightful place of study and a place of delightful study.

Training Ground for Useful Citizens.

The next thing I should urge students to remember is that the University is the training

ground in which they should learn to become useful citizens of the world and that what they learn in the classroom represents half and less than half of what they should learn at the University. For this purpose nothing is more important than the utilization of leisure and again I quote Solomon who said " The wisdom of a learned man cometh by opportunity of leisure " I have never been able to get a satisfactory answer to the question how students spend their leisure and the man who fritters away his leisure is one who fritters away his money. During his leisure a student should immensely widen his range of interests and extend his general knowledge regarding nothing which has or is occupying the thoughts or engrossing the activities of men on this planet as outside the scope of his intelligence. He should read widely and constantly and it is better that he should read the lightest of literature than that he should not read at all. It is only a mind stored with a wide and various knowledge and an understanding enriched by constant observation which is fit to meet all the emergencies of life. The problem of educated employment in India is serious and a mere numerical calculation will show that there cannot be places in Government service for a tithe of the students who aspire to them. Nor is it desirable that it should be so. Nothing can be worse for a country than that a majority of its educated class should be men, incapable of making a career in other walks of life. The *Public Service Commission are like men casting their nets into the sea and catching good fish for the public service, but it is a condition of* the success of their labour that there should be as good fish in the sea as ever came out of it. They do not want to cast their nets into a village pond leaving nothing but mud and minnows behind. The great residue must fructify the life of India outside the public service. To do so requires great powers of observation, enterprise and courage: it is necessary to strike out new lines and embark on great adventures and those countries which have had most men endowed with those qualities are the countries which have been *the foremost pioneers of civilization.* A country cannot progress if its young men are all playing for safety, looking for well assured, if small, salaries, followed by exiguous pensions, leading a sheltered life in the performance of small tasks and avoiding laborious days, hard work and adventure. There is much to be done which no Government can do: almost everything that the individual can do and it is the social mission of the University to produce men equal to the task, men to bear rule in the kingdoms, men renowned for their power giving counsel, by their understanding and declaring prophecies, leader of the people by their counsel and by their knowledge of learning meet for the people wise and eloquent in their instructions.

In laying the foundation stone of the new diamond cutting factory at Kimberley, the Minister of Mines and Industries (Mr. F. W. Beyers) said the Union produced the finest and largest diamonds in the world, and it was natural that they should want to convert the raw material into the finished article. There could not be any objection, technically or otherwise, to this being done. The only regret was that it had been delayed so long. The erection of this factory would benefit the whole of the Union. It meant an opening for the intelligent youth of the country; it would give them reliable employment. Under the contract provision was made for training 500 South African boys.

"I see the World Union of Diamond Cutters have taken up what I consider to be a very strange attitude," he said. "I do not know whether they are actuated by the fear that the industry in South Africa is going to kill them in Europe. If that is the cause, then it is all the more reason why we should establish a factory here, because if they think we are going to kill them it shows that they know we could do the job in South Africa. If we can do it, why on earth should we not do it? We need not take serious notice of the World Union's threat of an intended boycott. We have cutters and polishers in the country to-day, and more will be coming out from the other side; but if they boycott us we shall tell them that we shall rely on our own South African cutters. A few will be trained, and in turn they will train others, and we shall train sufficient to see that our industry is continued."

Speaking at a later meeting, Mr. Beyers said that the country had 180,000,000,000 tons of coal, which were going to be utilized for the production of crude oil, by means of which it would be economically safe in case of a world revolution. The Government was going to appoint a geological expert and establish a Fuel Research Institute at a cost of £30,000 and an annual charge of £8,000 to £10,000. The Government was to a man for industrial development.

Care and Management of Small Boiler Plants.

By S. C. Mitter, B.Sc. (Eng.), (London),

Industrial Engineer, Bengal.

It is a common experience that a large number of small factory boiler plants, in operation, do not receive that amount of supervision and care as is economically desirable. It is a common belief amongst many that the boiler house is a non-productive department and hence it is not necessary to pay much attention either to the cost of maintenance or to the efficiency of the system. In fact, h wever, the cost of power may amount to a considerable proportion of the total cost of production, and so there is much to be said for rescuing the boiler plant from neglect. The object of this article is to express, as concisely and as clearly as possible, some of the elementary principles regarding the care and management of small industrial boiler plants, in the hope, that economic improvement may result, to the advantage of many small industrialists.

Extent of Wastage.

It is a common opinion amongst experienced Engineers that out of every 100 tons of combustible matter burnt in an average boiler, forty tons, *i.e.*, 40 per cent, are generally wasted, whereas, with properly arranged plant, and regular and systematic supervision, this loss can be reduced to 20 per cent only.

Causes of Wastage and Higher Fuel Consumption.

Wasteful consumption of fuel is due to—

(1) leaky brick work and settings of the boiler ;
(2) formation of incrustations, scale and sediment in the boiler shell ;
(3) improper firing ;
(4) thick firing ; and
(5) leaky steam pipe joints, etc.

(1) *Leaky Brick Work and Boiler Settings.*—Qualified Engineers assert that out of the total coal burnt in boilers, 5 per cent of it is wastefully burnt due to air leakage, through the brick work and settings. It is, therefore, essentially necessary that boiler attendants must make sure that the whole of the brick work and settings are air-tight. The existence of air leakage of this kind can be tested by applying a lighted taper or torch to all cracks and joints when the inrushing air, into the flues, will be obvious.

(2) *Formation of Incrustations.*—It has been observed by qualified Engineers that for every ⅛ inch thickness in the scale, formed inside the boiler, the loss of fuel is increased by 15 per cent. This formation of incrustation is due to the hardness of water which must be removed before feeding the water into the boiler. It is usually suggested that the addition of pure caustic soda or some other chemical compound will mitigate the trouble. It is to be remembered that there is no harmless chemical which will efficiently remove the scale, when it has once gone into the boiler. The only remedy is to purify the feed water by which the sediment and the added chemical can be deposited in tanks or in filters outside the boiler itself. Unless therefore the water obtainable is reasonably pure and of a total hardness not exceeding 4 parts in 10,000, the best course is to employ a water-purifying apparatus in the circuit.

(3) *Importance of Regular Firing.*—It is essential to fire up at regular intervals in order to maintain a steady steam pressure. The interval between firings will obviously depend on the steam required. Each shovelful should contain about 30 lbs. of coal and three such shovels are to be put on at each firing. When firing proceeds irregularly, the fire burns thin and holes admitting excess cold air to the heating surface appear. This is followed by excess coal, incomplete combustion and production of black smoke. It should be noted here that the ordinary rate of combustion per square foot of fire grate per hour is about 15 lbs. for small horizontal and vertical boilers.

(4) *Results of Thick Firing.*—It must be impressed on the fireman that a thick fire gives the worst result, for the air does not pass through freely as a result of which gas is formed which does not burn completely in the furnace. Incomplete combustion results, and sooty deposits are formed on the fireside of the tubes which greatly retard the transmission of heat : it is also to be noted that overheating of tubes and heating surfaces often results from thick firing.

(5) *Thickness of Fire.*—It may now be asked as to what should be the proper thickness of fire.

It usually depends on the amount of steam required, but a safe rule is to assume. 4 to 6 inches for bright fires in case of tubular boilers and 10 to 12 inches for Cornish and Lancashire

boilers; the rate of firing can be increased but not the amount of coal thrown on at each firing. To get the best results, the coal should be broken into small lumps of 3 to 5 inches across.

(6) *Leaky Steam Pipe Joints.*—Before raising steam the boiler attendant should personally inspect the different parts of the boiler especially the "manhole" and, indeed, all joints: all steam pipes and the exposed portion of the boilers (in case of Lancashire and Cornish types) should be covered with some form of non-conducting substance so as to prevent radiation. All pipe joints should be properly secured so as to minimize the leakage of steam; wastage due to this cause is of serious importance. Assuming the quantity of steam, at a pressure of 100 lbs. per square inch, leaking through a defective joint, to be equivalent to that passing through a hole of only ⅛ inch in diameter, it can be shown that each leaky joint giving a leakage of steam of these dimensions causes a wasteful consumption of 4 tons of coal per annum.

(7) *Importance of Feed Water.*—The higher the temperature of the feed water the lower will be the consumption of coal; feed-water heaters are known to play an important part in boiler economics; and the simple types of Heaters now on the market are all that are required. Installation of the complicated forms of such heaters is not necessary in small installations.

(8) *Care of Steam Boilers in daily operation.*—To maintain the efficiency of the boiler plant the following instructions, which are based on the actual experience of many renowned Engineers, should be adhered to:—

(*a*) The boiler should be filled with water till the water rises to the mark on the gauge glass indicating the water line.

(*b*) The water gauge cocks should be tested properly; if no water enters the gauge glass freely, the lower fitting should be immediately unscrewed and a piece of wire should be passed through the openings right into the boiler. This should be done before steaming the boiler.

(*c*) The boiler should be gradually warmed and steam should not be raised in less than 4 hours' time. Quick getting-up of steam hogs the furnace tubes, strains the end plates, etc.

(*d*) After firing, the ventilating grid in the furnace door should be opened for a minute or so, the bars being kept covered right up to the bridge. The object of opening the ventilating grid is to burn all gases formed, due to fresh coal coming in contact with the lighted coal. The fire should rarely be raked. In the event of the coal coking together, a slicer is to be used for breaking up the burning mass and clinker.

(*e*) The fire should be cleaned as often as the clinker renders it necessary. Slacking ashes on the flooring plates of Lancashire type boilers, corrodes the front of the boiler at the flat and plate, and also at the bottom of the boiler shell, where it rests on the front gross wall.

(*f*) *Feed Water Supply.*—The feed check valve is to be so set as to ensure a regular constant supply of water as far as possible and to keep it up to the height indicated by the water level pointer.

(*g*) *Gauge Glasses.*—The test tap at the bottom of the gauge as well as the tap in the bottom neck should be blown frequently. When the water, that is available, is sedimentary, these taps should be blown through at least every hour. Plenty of water in the glass gauge does not necessarily indicate that there is a sufficient quantity of water in the boiler. It may be due to a stoppage in the bottom connection. This is the reason why two gauge glasses are always desirable.

(*h*) *Safety Valve.*—Lift each safety valve by hand in the morning before setting to work, to see that it is loose on its seat and thus secure that it does not stick.

(*i*) *The blow-off cock.*—The blow-off cocks should be used daily if the water is at all dirty or sedimentary, especially with locomotive type and vertical boilers as their narrow water spaces are liable to get choked with mud, which soon hardens into a solid mass. The amount of water to be blown out depends on the size of the boiler and can be determined only from experience. When blowing out, the best result is obtained if the water has been at rest for some time (say, before engine is started), thus giving the sediment time to settle; if the feed-water is clean merely turn the cock round.

(*j*) *Shortness of Water.*—If it is found that there is no water in the gauge glass it is to be assumed that there is a shortness of water in the boiler in which case the feed must be turned on gradually to full bore, the fires should be quickly drawn out from the front end. If the water does not quickly appear in the gauge glass and if the position is critical and if for any reason the fire cannot be drawn out, the furnace doors should be kept open, the damper should be lowered and the flue closed. The weight on the safety valve must be reduced or its spring relaxed forthwith to blow off the steam, and reduce pressure if an emergency blow-off stop valve is not available.

(*k*) ***Emptying the Boiler.***—When emptying, the boiler, on no account, should be under steam pressure. It must be cooled off with water in. To facilitate the cooling of the boiler, the damper should be lifted open, and the steam should be blown off.

(*l*) If a boiler is blown off under steam pressure the plates and brick work are generally left hot which harms the brick-work owing to unequal cooling strains. Severe straining by local contraction, sometimes even resulting in fracture of the seams, is caused by cold water being dashed on to the hot boiler plates.

(*m*) If the water be sedimentary the boiler should be cleaned once a month or at least every two months. All the scale sediments should be removed from the boiler. The plates of the flues should be well brushed of soot and ash deposit.

(*n*) It must be remembered that unless the boiler is suitably prepared a satisfactory examination cannot be undertaken. The scale and sediment mentioned above should be preserved and shown either to the Inspector of Boilers or it may be forwarded to the Director of Industries, Bengal, for examination and advice as to the best means of mitigating the trouble.

(*o*) *Fusible Plugs.*—These should be kept free from the soot on the fireside and from incrustations on the water side. It will be a good thing to change the fusible plugs once every year.

REMARKS.

This is designed to draw attention to a few of the difficulties that are generally met with in actual daily practice. It is not claimed that the subject has been dealt with as thoroughly as is done in an ordinary text-book. The enumeration of important points only has been attempted with the earnest desire that those who are responsible for the supervision and maintenance of small boiler plants will realize some of the points affecting economy in results, and apply its advice to the undoubted benefit of all concerned.

Co-operation as a National Movement.

By Sir Lallubhai Samaldas.*

To my mind the most important task before a Conference of co-operative unions and institutes is to enable those connected with their activities to appreciate their true rôle in the movement, to develop and strengthen a sense of solidarity both within a Province and among different provinces and to transform the co-operative organization in India into a truly national movement. It is not only hostile critics of the movement both in the country and outside, who think that there is an absence of national fervour in our co-operative system, but even a sympathetic critic like Sir Horace Plunkett wonders whether it is possible to accord the dignified status of a popular " movement " to arrange of activities inaugurated by the enactment of special legislation and constituting the specific duties of an administrative branch of Government. The circumstances that proceeded the introduction of co-operative credit in India and the dominating position accorded to the Registrar both under the law and in administrative practice, may be held to be mainly responsible for such an impression being created in the minds of friendly critics like Sir Horace Plunkett, but now that we have a provincial federation, union, organization, society, institute or Council of Co-operators constituted in almost every province in British India, it is certainly our own fault if critics, both Indian and foreign, complain that they find the national impulse lacking in our movement.

IMPORTANCE OF NON-OFFICIAL ORGANIZATION.

It is not surprising if leaders of public life feel as Sir Horace Plunkett does when even the Royal Commission on Agriculture in India after a careful examination of the movement in various provinces assign less importance to co-operative unions and institutes than to the Registrars and their staff. Although they have given expression to their appreciation of the work done by the co-operative apex organizations within the movement and have recommended to grant to them doles, yet the whole trend of their recommendations is that it is not to these bodies but to the Registrars and their staff that the movement should look up for better education, more efficient supervision, more effective control and further ordered progress. The unions and institutes come in only incidentally and may, it is said, be helped if they properly subserve this purpose. I believe I am not uncharitable in putting forward

† Part of an Address delivered before the Co-operative Conference, Simla.

this impression of mine, because I find that the "Irish Statesman" (edited by A. E. George Russell, described by Sir Horace Plunkett as a strange combination of mystic philosopher, poet, painter and agricultural economist, and I may add a true nationalist) has the same comments to offer. The paper says:—

"The discussion on the co-operative movement is one of the least satisfactory parts of the Report and that the conclusions reached on this vitally important subject will fail to command universal assent." The writer notes that "the Commission do not envisage any fundamental departure from the method of co-operative organization already practical in India," and then adds "while organization on these lines will probably assist the regeneration of agriculture (which I doubt) it will fail to effect the moral and social improvement which are essential features of true co-operation in Western countries" and I think ought to be in India also. And this leads me to refer to the subject of gradually transferring the control from the official Registrar to the non-official organizations and making it a people's movement in the real sense of the term. This is a recurring theme of discussion in Provinces where our Provincial organizations have established touch with public thought and opinion.

DEMAND FOR DE-OFFICIALIZATION.

It seems from the memorandum submitted by Sir Horace Plunkett to the Royal Commission that he fails to appreciate this demand for de-officialization and even to confuse it with 'Indianization' and the 'Transfer' of subjects to the control of Ministers. My friends from Madras to which province belongs the credit for coining the term 'de-officialization' for this purpose, will be able to explain clearly what it connotes. I may be permitted to put forward my interpretation of this phrase. In the first place, it means the transfer of control over policy within the movement from the Registrar to registered apex institutes and unions. This will naturally lead to the relaxation and modification of the Registrar's authority in respect of the powers he at present enjoys for registering societies and amending their bye-laws, and involve delegation of certain powers under the Act to apex organizations. In the second place it will mean the complete transfer of functions of education and propaganda, training and supervision to such organizations.

With his deep study of and insight into co-operative developments, Mr. Henry Wolff has, I find, endorsed this demand in provinces where the apex organizations have gathered strength and possesses a nucleus of well-trained co-operative workers. It should be the function of Conferences like the one we are holding to-day further to clarify co-operative opinion on the subject and to formulate our policy and enunciate our definite requirements and get them adopted by Government. Unless we do this, not only shall we constantly have the reproach levelled against us that co-operation in India represents a government policy and not a popular force inspired by public appreciation of its aims but also we shall not be able to place the movement on a solid foundation.

LAND MORTGAGE BANKS.

At this stage, I do not propose to offer any remarks on the various important subjects that figure on the agenda for this Conference as I hope to be allowed to participate in the deliberations of this Conference and not merely to watch them, and I shall then take an opportunity of expressing my views on these points. I want, however, to refer to certain matters arising out of the recommendations of the Royal Commission on Agriculture, and I request you to devote some time to their consideration before we part. Recommendation numbers 22 to 29 refer to the question of starting Land Mortgage Banks. Although this subject is primarily one of finance, our organization should, I think, express its opinion on the general line on which such institutions should be established and the kind of Government assistance that should be given to them.

Recommendations 16 and 17 refer to adult education and the preference to be given to this subject. This comes entirely within the scope of this Conference and I hope we will have time to examine these questions and express our opinion thereon.

GOVERNMENT GRANT TO APEX ORGANIZATIONS.

I have referred above to the question of grants to be made by Government to apex organizations in different provinces. The Madras Committee on Co-operation suggested a definite basis for such grants and we would do well to formulate our views on the proposal as also to discuss whether all grants should be centralized or whether Government might make direct subventions to local unions and federations. There is then the cognate question of the relation between local unions and apex organizations wherein each province will, no doubt, be guided in the matter by local considerations. But it might be useful to clarify our ideas on so important a matter in a Conference like to-day's. Equally important is the adoption of some definite line of action for the

regular, continuous and systematic education of members of primary societies in co-operative *principles and practice.* Then the Royal Commission recommended that honorary workers might be paid part of the cost of visits to Great Britain and Ireland to undergo training in co-operative technique and field work under special arrangements devised by the Horace-Plunkett Foundation. A similar suggestion is made about the payment of expenses for study tours by honorary workers of one province and the Commission also propose the continuance and extension of the existing arrangements in some provinces, of honorary workers being paid their out-of-pocket expenses " both whilst they are under training and they are working in the fields ". In all these directions, as delegates of responsible and representative institutions within the movement, we should express our own considered views. I *trust it will be possible for us to exchange views* and compare notes on these matters as they have an influence on developments which is not limited by provincial boundaries

Friends, I have taken so much of your time and as I have reserved the right of speaking on the various items on the agenda, I do not propose to detain you any longer. Before I close, I would request you to bear always in mind the pre-eminent rôle that the institutions you represent are destined to play in the future of co-operative movement in India and outside. It is institutions like yours which in most countries in the West are the corner stones of national movements, organizing, guiding co-ordinating, directing, educating and inspiring the co-operative endeavours within their countries and forging international links which are establishing a new world brotherhood based on identity of common economic interest. It is to this great human purpose that we must dedicate ourselves.

Timber Economy.

Use of Laboratory Work.

London, 15th November 1928 : —Among the many natural resources which had to be squandered recklessly during the War were the supplies of timber. There had never been any great control over the manner in which timber was utilized, but in the face of War needs the depletion became more uncontrolled than ever. Some compensation for this extravagance may have been found in the fact that when, later on, problems of reconstruction were under consideration, the deplorable position of forestry in this country attracted the Government's attention, and it set up a Forestry Commission to do what was possible in order to conserve such timber resources as remained, and to plant new ones. There was, and is, good reason to regard the timber situation as critical. The wholesale felling of British woodlands during the War was followed by a rise in prices, and at the present time timber-growing countries are fearing a world shortage of the soft woods that are used in building constructions. From another point of view, it is to be remarked that the country imports perhaps eight or ten times as much timber as it produces, and of the £50,000,000 spent annually in this way a large part goes not to British Dominions and Colonies but to foreign countries.

Considerations such as these led the Department of Scientific and Industrial Research to appoint a Forest Products Research Board, and in due course to establish a Laboratory for the purpose of enabling it to undertake the *prolonged and laborious investigations* which were required to enable improved use to be made of timber supplies. The equipment of this Laboratory having been completed, Lord Balfour who, as Lord President of the Council, is the head of the Research Department, received recently a large gathering of persons interested in timber scientifically and technically.

Objects of the Laboratory.

The occasion was taken to explain in some detail the purposes for which the Laboratory had been established and the uses it can serve. Its primary object is to promote the more economical use of timber by the timber-using industries of the country. There seems to be scarcely an aspect of the uses to which timber *is put in which fuller knowledge would not be* likely to show the way to substantial economies. Much, for instance, remains to be learnt of the strength of timbers of various species so as to allow them to be used in more economical sizes. A large amount of waste occurs annually through imperfect seasoning, and neither methods of seasoning nor their effects on different species of wood have been adequately worked out. Sources of decay and methods of preservation are also insufficiently understood though decay is known to cause a vast amount of waste. The uses, again, to which home-

grown timbers and Empire timbers of the numerous species available can be best put, have yet to be defined systematically, and the knowledge on which such definitions can be based would give valuable indications to growers as to the methods to be adopted in the cultivation of their crops.

The primary object of the Laboratory is, therefore, to give the necessary facilities for obtaining the vast volume of information that is required. For this purpose the Laboratory has been provided with a staff and an equipment adapted to the large variety of aspects from which the necessary work has to be undertaken. The work, moreover, is being done in close co-operation with other institutions engaged on research, and with the industries in this country and throughout the Empire that are engaged in growing timber and in using it for building or manufacture. It is, therefore, so organized as to serve as a clearing house for technical and scientific information on the subject, and an essential part of its work, the extent of which appears to be increasing steadily, is to learn of any difficulties which are met with in practice in the use of timber, and to place all the co-ordinated information in its possession at the disposal of inquirers.

Seasoning and Preservation.

The mechanical properties of wood can be investigated on specimens sufficiently small to be straight-grained and free from defects, and it is upon such specimens that results must be obtained in order to afford definite standards of comparison. It is hoped that by such tests relations will be established between the mechanical properties of the wood and such circumstances as its rate of growth, density and moisture content. On the other hand, tests have to be made likewise on full structural sizes in order to gain knowledge not only of the average behaviour of a timber in practice but also of the influence exercised by defects on the inherent strength of small flawless specimens.

The equipment and organization of the Laboratory enable tests of both kinds to be made on the scale required to deal with the numerous varieties of timbers to be investigated. It also provides for the examination of the effects of various methods of seasoning on timbers of commercial sizes. Plants are likewise working on the several best approved methods of preservation by various processes. The seasoning and preserving plants have the double object of obtaining a more intimate knowledge both of the effect of the processes on various timbers, and of the circumstances on which the value of the treatment depends, with the object of improving its efficiency. The identification of the various species is carried out microscopically by reference to a collection of some 3,000 specimens which are at the disposal of the Laboratory. Provision is also made for the study of the physics of timber and the organisms and processes of decay.

The Secretary, Sugar Bureau, Pusa, writes:—According to the Report (of the Department of Overseas Trade) on Economic Conditions in the Union of South Africa dated June, 1928, published by His Majesty's Stationery Office, London, sugar is cultivated in Natal on a scale sufficiently extensive to supply the whole needs of the country and leave a surplus available for export. This surplus has been in recent years 60,000 short tons in 1925, 65 000 tons in 1926, 60,000 tons in 1927, and is estimated to be about 100,000 tons for 1928. Producers in Natal suffer from the great disadvantage that the only varieties of cane that they have hitherto been able to cultivate continuously yield a crop only every second year, which naturally increases costs, and it is asserted that the surplus sugar exported yields, at the present low world's price, little or no profit, or is produced at a loss. There has been considerable internal friction in the industry during recent years through conflict of the interests of producers, millers and merchants, but following on intervention by the Union Government Board of Trade and Industries, who prepared a very full and able report on the condition of the industry some two years ago, agreement has been reached and the industry reorganized and placed on a sound basis. Much research is being undertaken on the growing of better yielding varieties of cane and on other technical problems of the industry, and if results can be obtained that lead to a lowering of production costs there is good prospect of a further considerable expansion of the industry, since much land suitable for cane growing is still available. While no important increase in the contribution of this industry to export trade can be looked for in the immediate future, there is a good prospect of its becoming a more important factor ultimately.

Messrs. Allen and Unwin will shortly publish an illustrated book on "Representative Industries in the United States," the various chapters of which include the iron and steel industries, rubber, water power, chemical industries, building, banking, cotton and wool.

Agriculture in Madras, 1927-28.

By "Son of the Soil".

In reviewing the Administration Report of the Madras Agricultural Department for 1927-28, the Government of Madras state that the various activities of the Agricultural Department during the year 1927-28 have been well presented by Mr. Anstead in his annual administration report. Though, pending the publication of the report of the Royal Commission on Agriculture, no marked deviations from the normal policy and programme of the Department were attempted, work continued with increased vigour in the various branches of the Department on the lines of previous years, and Government note with satisfaction that the appreciation of the usefulness of the Department by the agricultural classes is steadily on the increase.

The demand for collegiate education in agriculture continued to be on the increase during the year under review, and Government consider that the advisability of revising the curriculum of the college so that greater attention is paid to agricultural economics and estate management and the possibilities of offering a post-graduate course should be explored. Middle school education, however, was not attended with similar success, and the agricultural middle school at Anakapalle had to be closed during the year. It is, however, hoped that the schools which are to be opened at Kalahasti and Usilampatti will produce as good results as the school at Taliparamba.

The fundamental problems underlying crop pests and diseases and the improvement of existing crops by hybridization and selection continued to be studied by experts at Coimbatore and their discoveries tested in the 31 experimental stations of the Presidency. The enormous possibilities of hybridization and selection are being steadily pushed forward in the four paddy breeding stations at Coimbatore, Aduthurai, Maruteru and Pattambi, the last of which was opened this year, the ultimate aim being the evolution of a strain which will be resistant to the fungus pericularia commonly known as blast disease. Government note with interest the recognition by the agricultural classes of the superiority of the strains evolved by the Department as evidenced by the increase in the demand and supply of seeds of improved strains, the supply during the year being 170 tons against 131 last year. As the nutritive value of grains grown under different methods of manuring and cultivation is as important as the yield and outturn, it is proposed to study this under the guidance of Lt.-Col. McCarrison, Director of the Deficiency Disease Inquiry, and the necessary buildings and funds have been provided, and Government hope that this investigation will have a far-reaching effect on the agricultural policy in India. Research work on cotton proceeded on the lines of previous years, particular attention, however, being paid to rain-fed cotton. The startling results of early sowing resulting in four times the yield of late sowing which has been discovered this year will, it is hoped, be further investigated and ere long demonstrated to ryots, and Government are pleased to note that during the year under review both the quantity of seeds supplied and the area sown with them have increased by 20 per cent of last year's figures.

Experiments on sugarcane, dry grains, betel vine, cocoanut, potatoes and groundnut proceeded on normal lines, and steady progress is recorded except in the case of groundnut, attempts at evolving and introducing improved strains of which were hampered by the adverse character of the season. Government consider that closer attention is desirable in the case of these crops grown in dry and precarious tracts as the struggle for livelihood is hardest among the ryots of such tracts.

Work on fodder crops continued on the usual lines, attention being paid to silage making. As the question of fodder is a very serious problem to India especially in hot weather, Government consider that the enormous possibilities of silage and the ensiling of the many kinds of suitable material available and addition of cheap materials to make silage food more palatable offer a wide field for closer investigation.

The four cattle stations at Hosur, Coimbatore, Chintaladevi and Guntur continued to work successfully with the object of producing bulls of the best type for distribution in the Presidency and a new scheme was begun this year of placing Government bulls at stud at veterinary hospitals and under district boards Government consider that the question of limiting issue of breeding bulls to selected areas to raise the quality of stock in those areas and placing the improved bulls of those areas at the disposal of district boards should be investigated.

The Mycological and Entomological sections continued to be devoted to the fungoid and parasitic causes of plant diseases, and though the Department has utilized to the full the benefits of the resources at its command Government note that appreciable progress has yet to be made in the effective tackling of the blast disease of paddy, boll rot and seedling blight of cotton and the wilt disease of groundnut and betel vine as well as the cocoanut caterpillar In this the Department was much handicapped for want of a Physiological Botanist, and now that the Central Committee have offered a better scale of pay for the post of Botanist it is expected that suitable candidates will be forthcoming soon to tackle the diseases of cotton.

Demonstration work proceeded on the usual lines of establishment of demonstration plots on the ryots' lands as well as taking part in exhibitions. The motor exhibition lorries recently sanctioned will, it is hoped, be of great assistance to the Department in educating ryots in the most out-of-the-way villages in improved methods of cultivation.

Government note with satisfaction that the Agricultural and Co-operative Departments worked in harmony during the year and that the agricultural loan and sale societies are working successfully with the object of supplying to the public pure seeds of improved evolved strains produced under departmental supervision and hope that this kind of demonstration on co-operative principles will develop appreciably during the current year.

Government note that, though special attention has been paid to the green manure problem and conservation of farmyard manure the Department is not yet in a position to give definite advice in regard to the economic use of fertilizers and trust that particular attention will be paid to this aspect of the manuring problem during the current year.

The popularity of the improved agricultural implements continued to be on the increase and it is hoped that with the recent appointment of an Agricultural Engineer, rapid strides will be made in the invention of new and improvement of existing agricultural implements and machinery.

Peasant Life in India.

By Harold Cox.*

The Royal Commission on Agriculture in India has just issued an Appendix to its previously published report. As a rule appendices to official reports are rather heavy reading, full of dull figures and solemnly stated facts. In this Appendix, of necessity, both these rather unattractive features are to be found, but in addition the various authors have brought out a number of most interesting facts in a way to appeal to the general reader, and in dealing with many of them have often adopted a pleasantly light tone that one hardly expects to find in an official report. This substantial volume is divided into chapters, each devoted to one of the provinces of India, but, with minor differences, the essentials of the agricultural problem are much the same throughout the whole Indian Empire.

India's Principal Industry.

In all the provinces agriculture is the principal industry. In Bengal this report states that over 77 per cent of the population lives by cultivating the land, and that may be taken as roughly representing the whole of India. There are many forms of land tenure in India as in Europe. One of the most common is that of the peasant farmer tilling his own soil. Neither in India nor anywhere else has this proved an ideal system. Peasant ownership inevitably involves the lack of up-to-date equipment for cultivation, and it also generally leads to what is known as "fragmentation" of the peasant's holding. When the peasant owner dies, his land is broken up between his sons, each of whom claims his share of each particular field, with the result that after a few generations the holdings are scattered over a wide area and many of the fields are too small for proper cultivation. An attempt to meet this difficulty has been made by the formation of rural co-operative societies which among other activities devote their energies to consolidating scattered holdings.

The Money-lender.

One special characteristic of the Indian peasant which is strongly emphasized in this Appendix is his lack of thrift. The report on the Punjab states that "the thrift of the French or the Scottish peasant is a rare virtue in the Punjab. As a result, when financial difficulties

* Courtesy : *Sunday Times*.

arise the cultivator has to go to the money-lender. In Bengal it is stated that the rates at which money is lent range from 36 per cent. to 48 per cent. This again is a problem with which the Co-operative Societies, encouraged by the Government of India, try to deal and where they can get reasonable security they advance money to the peasant at very much lower rates. The agricultural departments in the different provinces of India also assist the peasant very actively with advice as to seeds and manures and so on. It is satisfactory to note that some, at any rate, of the peasants manage, in spite of financial difficulties, to get a good deal of enjoyment out of life. Their work on the land in many cases occupies them for only three to five months in the year, and in his long leisure periods the peasant wanders about to the different markets in his neighbourhood; his sons, who normally help him with his work, find amusement in playing country games. It is particularly interesting to learn that these lads are now playing football and even cricket."

"Mouth Distribution."

Everywhere the peasant is controlled by religious and caste observances. The report on the United Provinces after referring to the profound influence of religion and caste, humorously adds: "Veneration of the cow is entwined in the heartstrings of the peasant, but the cow derives little practical advantage from the existence of this excellent sentiment." Again, in the North-West Frontier Province, largely inhabited by Pathans (pronounced Put-haans), a large section of the population is more primitive than in Bengal or Madras or Bombay. An amusing reference is made to the old Pathan custom of *khula vesh*, which means "mouth distribution". Where this custom prevails—or used to prevail—there was a periodic redistribution of land and even of houses on the basis of mouths among the male adult population. But the report goes on to state that as the result of the introduction of settled government this "naked socialism" has fallen into desuetude in most districts; in other districts irrigation has "washed it out".

The word irrigation brings us to what is perhaps the most important of all the problems of India, namely, the water problem. In some districts there is a chronic scarcity of water so serious that in the dry seasons the human inhabitants "have to content themselves with one drink a day and the cattle with one every other day". More generally throughout India there is the difficulty that arises through the intermittency of the rain. We in England perhaps insufficiently appreciate the advantage our farmers derive from our uncertain climate—rain one day, sunshine another. In most parts of India there are months when not a cloud is seen in the sky. Then come torrents of rain day after day. But it may happen that the rain comes too late, and it may happen that there is too much of it, and then the floods may do more damage than the rain does good. Consequently the success of agriculture over very large areas of India depends on irrigation. Canal irrigation began in the Punjab, so this report states as far back as 1351. It was extended and improved by Akbar in 1658, but the real development of irrigation throughout India began under British rule. It has advanced with extraordinary rapidity during the last few decades. In the Punjab, the area watered by irrigation canals increased from about 2,000,000 acres in 1887 to 11,000,000 acres in 1922, and in that province alone the area irrigated by canals is greater than all the ploughland of England and Wales.

Population Pressure.

In spite, however, of this remarkable development of irrigation and in spite of the excellent work done by the various agricultural departments in India and by the co-operative societies with the Government assistance, there still remains a fundamental agricultural problem for which no solution has yet been found, namely, the pressure of population against the available means of subsistence. Almost every one of these provincial reports frankly refers to this fundamental problem. As the yield of the land is improved by irrigation so does the population expand. The report on the Punjab puts the point very effectively in the following words quoted from a recent writer on the Punjab peasant: "In India every advantage of nature is sooner or later neutralized by an increase of population. The result is that a low standard of living—so low that European people can hardly picture it—still continues in spite of all the improvements that are in progress. And, clearly, if the numbers continue to multiply, the time must come when the standard of living will necessarily fall still lower. This matter was frankly set forth in the main Linlithgow Report. It affects practically every province of India. In the words of Appendix dealing with the United Provinces, the question that has to be faced is "Whether ultimately the standard of living will break under the stress of population, or whether some conscious check will be imposed for maintaining intact the standard of living?"

The Backward Classes.

By Christopher Hay, M.A.

A resolution of the Bombay Government reviewing the reports of officers on the working of the orders relating to the recruitment of backward classes in public service shows that Government are satisfied that genuine efforts have been made by most of the officers concerned to give effect to them. Cases have, however, been noticed where the orders do not appear to have been fully understood. In the present resolution Government, therefore desire to bring to the notice of all Heads of Offices points which require their attention. As the Resolution is of more than local interest we consider it here

In their resolution of February 1925 Government prescribed minimum percentages of recruitment of members of the backward classes and Muhammadans to the clerical staffs of all Departments, with a view to securing their adequate representation. An impression seems to have prevailed that the minimum percentages prescribed are also the maximum and that the remaining percentages are reserved for the advanced classes. Government desire to make it clear that their orders did not convey any such idea; on the contrary there should be no restriction on the recruitment of members of the backward classes & Muhammadans beyond the prescribed minimum percentages, should suitable candidates from among them be forthcoming. In offices which are organized into two separate divisions the orders must be enforced in each division separately. In establishments which are all borne on one cadre in the Presidency proper the minimum prescribed percentages of recruitment are held to be 50 per cent for the whole cadre from communities other than those which have been treated as advanced in the various localities.

Some of the Heads of Offices have already made efforts to appoint qualified candidates from among the depressed classes and Government desire that all officers in the Presidency proper should give similar preference to those classes wherever suitable candidates are available. Some officers have appointed persons from other Provinces. Government invite the attention of their officers to the orders issued in this connection and lay stress on the fact that no preference should be given to persons residing outside the Bombay Presidency or the Indian States in political relations with the Bombay Government.

It is pointed out that the silence of many of the reporting officers regarding temporary acting appointments and their interpretation of the word "temporary" as referring only to additional appointments together indicate a way in which the intentions of the orders of Government may be defeated. Whatever may be laid down in theory, the occupation of acting appointments at the bottom of the cadre will always in practice be held to give a preferential claim to vacancies on the permanent strength as they occur. So, if most of these "temporary" appointments go to men of the advanced classes, the majority of the permanent appointments will inevitably go to the same classes. Government, therefore, direct that the claims of men from the backward classes to short vacancies should be recognized.

As regards the advertising of vacancies Government state that the orders relating to advertisement of vacancies were not optional but absolute. As a general rule, few heads of offices have advertised vacancies either permanent or temporary. It is admitted that most offices have long lists of candidates but advertisement might bring in other candidates as well or even better qualified than those whose family connexions had found them places on the list. Advertisements may be issued once every year or six months if necessary stating the number of appointments which were made during a certain period and adding that the officer concerned is prepared to accept applications for entry on the list of candidates.

Government are well aware, continues the Resolution, that if promotions continued to be given purely by seniority, the backward classes would, in course of time, obtain a proportion of senior appointments roughly equal to their proportion to the whole strength of the office. But Government consider that process too slow, and direct that, when suitable men are available, an effort should be made to accelerate it. It is pointed out that men should not be promoted out of turn merely because they belong to the backward classes, but fair opportunities should be given to them, according to the circular issued in July 1925, and the principle of selection should be introduced to a greater extent than hitherto has been the case. In assessing merit for the purpose of promotion to selection grades the fact that a man belongs to a backward class should be given due weight in comparison with the mere fact of seniority.

The resolution also invites the attention of officers to the orders relating to the advisory Committee constituted to assist in the recruitment of backward classes and Muhammadans. All appointing officers are reminded that under the orders, relevant information about vacancies must be sent in good time to the Committees. At the same time Government note with regret that some officers did not get reasonable assistance from the Committees which they had consulted in the matter of recruitment. Government are, however, considering the best methods of utilizing these Committees and increasing their activities.

Government hope that all Heads of Offices will give their personal attention to the questions of the promotion and recruitment of members of the backward classes and do their utmost to ensure that the orders are fully observed in future.

Scientific Management.

The *Revue Economique Internationale* recently published an article by Mr. Henry Le Chatelies, one of the champions of Taylorism in France, on the connection between common sense and scientific management.

The thesis of the article is stated as follows: The spread of scientific methods of industrial management has not been so rapid as might have been hoped. It has encountered prejudices which call for attention. These prejudices must be overcome by an appeal to common sense, and an attempt must be made to impose common-sense notions on the persons concerned, by an appeal to public opinion.

Before acting, we must think and draw up a plan. Preliminary reflection may be abbreviated but can never be completely eliminated. In questions of management the end in view must first be clearly defined, and then the means by which it is to be attained may be chosen, so as to turn all efforts to the best account. The author seeks to show, by a number of examples, that the advance of science has been due to technical knowledge, guided by the intuition of common sense. The same is held to be true of scientific management. Taylor's contribution is described as the practical application of ideas which anyone might have, but which no one hitherto had thought of applying to practical matters.

The superiority of the United States (continues the article) is due to the same cause as Taylor's success, namely, the presence among its manufacturers, workers and consumers, or in other words the whole population, of a remarkable good sense which is unfortunately absent from our old Europe.

The conclusions of the article are stated as follows: To develop the organization of labour, and thus increase production according to the wealth of each country, we must begin by stating certain common-sense notions, the too frequent neglect of which is an absolute obstacle to the spread of scientific management.

(1) The increase of production is equally profitable to all classes of society, consumers and producers, workers and employers. The increase may not, however, be the same for different products; it should be properly regulated with a view to the possibilities of consumption.

(2) Customs duties cannot lead to an increase of the general wealth; they merely favour certain industries at the expense of others.

(3) The increase of production by scientific methods of industrial organization is neither a cause of fatigue nor a cause of unemployment for manual workers.

(4) One of the most fundamental objects of management, and at the same time one of the easiest to appreciate, is the elimination of the waste of time and material. In this connection, the reduction of the number of different types of the same object is of capital importance, together with all provisions calculated to standardize the demand for the products manufactured and thus to secure continuity of work in the factories.

(5) A good understanding and co-operation between workers and employers, and between employers, is profitable for everyone. By reducing costs, it is possible to reduce prices, and thus benefit both consumers and producers.

(6) Scientific management within factories should be based above all on the Cartesian principle of division, *i.e.*, the breaking up of complex wholes into their elementary parts, and concentration on each fragment in turn.

(7) The research which must be carried on in order to ascertain the best methods of manufacture should be conducted in such a way as to change only one variable at a time, and in each case all the factors involved should be precisely measured.

It is unfortunately only too easy to discover that, in general, public opinion is opposed to each of the seven common-sense rules which have been formulated. An energetic struggle is necessary in order to secure their gradual recognition.

Vegetable Ghee.

By P. V. Gogte, B.Sc., Basim.

Since the Punjab Government has seriously raised the question of prohibiting the import of vegetable ghee in this country and since such a legislation is sure to affect ghee trade, I think I should place my information and experience regarding this vegetable ghee before the public so that they can discuss whether such a legislation would be advantageous or disadvantageous to the country.

Though vegetable ghee has reached the most interior parts of the country, very few people know what it really is. Some still believe that it is animal fat and so refrain from touching it. Some think it a product of doubtful origin and avoid it. At present ninety-nine samples out of hundred of bazaar ghee do contain the adulteration of this ghee and as such whether people refrain from touching the pure product or avoid its use, they are unconsciously using this ghee in an adulterated form. It is better, therefore, that people should know what it really is.

VEGETABLE PRODUCT.

It was high prices of genuine ghee and unmitigated want of cooking fat in the household that drove me to the necessity of obtaining Vegetable Product in pure form and conducting some experiments on it to see how far it could be useful. I tried about half a dozen brands of ghee. Of all these brands, I liked the Lily Brand the most. The other brands had no grains like natural ghee. They had peculiar offensive stink and the articles cooked with them retained the stink of the ghee. Samples of these articles were preserved for some days and it was found that the stink got more and more offensive as they grew stale. The Lily Brand had a granular structure and much resembled ghee in this respect. It had almost no smell and the articles cooked in it could not be distinguished. The articles remained good for two or three days without any bad odour but after that they developed the same stink as that of the inferior products but in a slight degree. The Lily Brand was churned with buttermilk and the product was fine butter, not distinguishable from genuine butter even by the sceptics. This butter was kept for three days in buttermilk but it became rancid. Genuine butter could be kept in buttermilk for three days without becoming rancid. The above rancid butter was then clarified but the ghee resulting therefrom retained the rancid smell of the butter. If artificial ghees are heated to the clarifying temperature like genuine ghee and if they are then solidified, they become stinking and it is by this stink that the artificial ghees can be easily distinguished, even if they are adulterated with genuine ghee. In order to distinguish the stink from the fine odour of the genuine ghee, one has to train his nose by taking a pure sample of home-made ghee and a pure sample of vegetable ghee and studying the difference in smell. Genuine ghee has also a distinct taste. Lily Brand has no smell and no taste. It is almost odourless and tastes insipid. While genuine ghee has got a fine pleasant smell and a peculiar taste probably due to the small amount of Butyrin in it, inferior products produce nausea, especially among sensitive people and have some purging action. They produce reeling sensation; appetite is lost and one feels as if something is amiss with his health. That was my experience of the cheaper brands. The Lily Brand was found to have no such effect. Whenever, therefore, the price of the genuine ghee went high, I purchased unhesitatingly Lily Brand for cooking purposes such as frying Puris or Jilebis, etc., and I found no deleterious effect on me by the use of the Lily Brand. Of course for taking ghee on rice or for eating with bread, I always prefer genuine ghee for its pleasant smell and palatable taste.

FOOD VALUE.

Now I come to the food value of this artificial ghee. Efforts have been made by the chemists to imitate natural ghee and Lily Brand is a product which has nicely approached natural ghee both in chemical constitution and in appearance. Old books on physiology said that the diet should contain proteins, fats and carbo-hydrates and their food values were ascertained from the amount of heat they could produce by the oxidation of the carbon they contained. Since the natural ghee and the artificial ghee have the same chemical composition, according to old physiology, the artificial product can be a good substitute for the natural one. A recent theory, however, of vitamins advanced by Sir F. G. Hopkins in 1912, gives that vitamins must be accessory food factors in diet with the suitable mixture of proteins, fats, carbo-hydrates and mineral salts and that foods devoid of vitamins have no food value. In the light of this theory, it i

murmured that the artificial products have no vitamins and as such they have no food-value. But none seem to have tested the artificial ghee for the vitamins. The work on vitamins is carried on in a very few places and only a few substances have been tested as yet and their vitamin contents determined. It would be wrong, therefore, to simply conjecture that the artificial product must be wanting in vitamins.

Ways of Adulteration.

The ways of adulterating vegetable ghee with the genuine one or passing it as genuine one surpass one's imagination. Very few traders sell the vegetable product as such and very few customers buy it as such. The traders usually hide the original tins of ghee in their godowns or back spaces and bring the stuff out *as much as needed by the customers and* passed as genuine one. If the traders have no back spaces in their shops, they transfer the contents of the original tins to other empty kerosene tins so that the customers may think that the stuff inside those tins must be genuine ghee. Sometimes, in order to impart some taste and smell of genuine ghee, to deceive experts, vegetable product is mixed with genuine ghee, usually half and half. If the mixture be made in cold condition or at a very low temperature, say just the melting point of ghee, the mixture passes off as good genuine ghee without any detection. But if the mixture gets heated much above the melting point, the mixture gets a stink and in that condition it fetches a low price. Those who are accus*tomed to the stink of the vegetable products* can easily detect the presence of the vegetable product in the mixture from the smell. As the adulteration of vegetable ghee became very common in the market, people began to inquire after hutter, which they thought would be unadulterated and genuine one. The demand for butter, thereby, rose so high that the buttermen devised means to mix the vegetable product in butter and thus to make their trade a lucrative one. The method of churning the vegetable product with buttermilk gives a good quality of butter with good flavour but the buttermen do not take the trouble of even doing that much. They rub the vegetable product with buttermilk with the palm of their hands and when the mass looks like butter, it *is mixed with some genuine butter. They top* this mixture in their earthen pots with genuine butter so that the customers are misled in judging the quality of the entire butter from the sample of the top butter. Before the advent of the artificial ghee in the market, genuine ghee was heavily adulterated with extraneous animal fats or vegetable oils, very often of injurious nature. From cases reported in newspapers, it seems that the fat for adulteration was obtained from dead animals and even dead serpents. Owing to the cheap and clean adulterant being made available in vegetable ghee, traders prefer to adulterate their ghee with the vegetable rather than to adulterate it with any dirty thing.

Prohibition of Vegetable Ghee.

If the vegetable ghee be prohibited from entering the country, the effect of it will be that the traders will resort to the old methods of adulterating their ghee with fats and oils of doubtful origin, which would be more injurious to the public health than the adulteration of *the supposed vitamin-wanting vegetable pro*duct. Secondly, the convenience that the vegetable product has given to the poor to purchase cooking fat at a very low price would be taken away. Thirdly, the price of the genuine ghee which is already high would go higher up still. If the manufacturers be asked to colour the vegetable product or if a condition be imposed on the importers to import the vegetable product only in coloured condition, the result will be almost the same as by prohibiting the import of the vegetable product altogether. The colour may make it difficult to pass off the product as genuine one or to mix it with genuine ghee without immediate detection. People in general do not buy the vegetable product as vegetable product. *They buy it as Deshawari Ghee.* If it be known that the vegetable product is coloured very few people will buy the coloured product and the trade thus will be discouraged. Traders will find difficulty in mixing the coloured product with genuine ghee and so they will go back to the old methods of mixing fats and oils very often of harmful nature. The Jallunder Municipality has levied a tax of Rs. 40 on a case of two tins worth Rs. 29 and weighing one pucca maund of 80 lbs. in order to discourage trade in the vegetable product. But the result will not be so. It will simply transfer the ghee trade from Jallunder to some nearing station where traders will set up shops, change the contents of the original tins to some old tins and make them *enter Jallunder as genuine country ghee.* There are no analytical methods known at present to distinguish the vegetable product from the genuine one and the Jallunder Municipality shall have to quietly acquiesce in the statements of the traders. In my humble

opinion, any attempt to prohibit the import of the vegetable product or to allow the import under condition of having it coloured or to tax it heavily will not be beneficial to the people at all. If the Government wants to check cheating and if it has no special attitude against the people using the vegetable product, I suggest an addition of some percentage of sesame (*til*) oil to the vegetable product as a condition for import. Sesame oil gives rose-red colour with concentrated hydrochloric acid and sugar, a reaction which is characteristic to this oil and any adulteration of this oil can be detected by this test. The addition of *til* oil will not change the colour of the product and so it will not affect the aesthetic sense of the customer. He will continue to buy it. Attempt at cheating, however, can be checked by subjecting the stuff in question to the above test. The Government will kindly invite the opinion of their experts on this point.

The Indian Road Development Committee.

By C. V. S. Rao.

The Report of the Indian Road Development Committee, 1927-28, which was appointed to examine the desirability of developing the road system of India and, in particular, the means by which such development could most suitably be financed; and to consider, with due regard to the distribution of central and provincial functions, whether it is desirable that steps should be taken for the co-ordination of road development and research in road construction, by the formation of a Central Road Board or otherwise, has been issued.

The summary of conclusions and recommendations of the Committee is published below:—

DEVELOPING THE ROAD SYSTEM OF INDIA.

The development of the road system of India is desirable for the general welfare of the country as a whole, and in particular—

(*a*) for the better marketing of agricultural produce;

(*b*) for the social and political progress of the rural population which will be advanced by the increased use of motor transport;

(*c*) as a complement to railway development.

MODE OF FINANCING.

(1) Road development in India is passing beyond the financial capacity of local Governments and local bodies and is becoming a national interest which may, to some extent, be a proper charge on central revenues.

(2) Road development, in so far as it contributes to the general welfare of the country as a whole, is a proper charge on general revenues but no increase in the expenditure on roads from existing revenues is recommended.

(3) To meet the additional demands and requirements created by the growth of motor transport, some additional taxation might be imposed on motor transport for purposes of road development over and above the existing taxation for general revenues.

(4) A well-balanced scheme of additional taxation on motor transport for purposes of road development should include—

(*a*) a duty on motor spirit;

(*b*) vehicle taxation;

(*c*) licence fees for vehicles plying for hire.

(5) The duty on motor spirit might be raised again to 6 annas per gallon without affecting consumption, provided that the additional 2 annas now imposed is spent on road development.

(6) The amount so realized would be Rs. 62 lakhs on the figures of 1927–28, but the consumption of petrol has been increasing annually at the rate of 30 per cent compound interest. Further, if the time arrives when it is possible to abolish or reduce taxation on motor spirit for general revenues, the Government of India might consider the desirability of retaining the tax for purposes of road development.

(7) An effort should be made to induce the oil companies to co-operate with the railway administration in reducing the price of petrol in inland towns.

(8) The duty on motor spirit is a source of central revenue and grant from central revenues for road development can only be made through the constitutional processes prescribed by the Government of India Act.

(9) As grants for road development cannot be used effectively unless some continuity is assured, a convention should be established for five years, whereby the Legislative Assembly would annually vote the proceeds of the additional duty on motor spirit as a block grant for expenditure on road development. This annual grant should be credited to a separate road development account, and unexpended balances should not lapse at the end of the financial year.

(10) The Legislative Assembly should continue to exercise control over the expenditure of the annual grant in two ways—

(*a*) The general principles in accordance with which the grant should be spent should be approved by the Assembly:

(*b*) A Standing Committee of the Indian Legislature for Roads should be appointed, similar in constitution and functions to other departmental Standing Committees which would advise the Governor-General in Council on all matters relating to roads; and all proposals for expenditure from the annual grant should be submitted for approval to a Finance Sub Committee consisting of the Member of the Governor-General's Executive Council in charge as Chairman and all members of the Standing Committee who are members of the Legislative Assembly.

(11) The annual grant should be divided as follows—

(*a*) One-sixth should be retained by the Government of India as a reserve;

(*b*) Out of the remaining five-sixths—

(*i*) An apportionment should be made among the provinces in the ratio which the consumption of petrol in each province bears to the total consumption in India in each year:

(*ii*) The balance, representing the consumption of petrol in minor provinces and administrations and Indian States, should be allotted as a lump sum to the Government of India.

If any part of the amount apportioned to a province remains unexpended at the end of the financial year, it should be carried over for expenditure in that province in the following year.

(12) Grants should be made to each province, up to the amount so apportioned to it in each year, for expenditure on projects approved by the Governor-General in Council with the advice of the Standing Committee of the Indian Legislature for Roads.

(13) The amount apportioned to Burma may for the present be spent on any scheme of road development that is approved by the local Government and the local legislature. But if at any future time the question of road connection with India becomes a live issue, the position should be reconsidered.

(14) Vehicle taxes and licence fees for vehicles plying for hire are sources of provincial or local revenue, and it is entirely for local Governments, local legislatures and local bodies to decide what additional taxation of this kind could be borne by motor transport for purposes of road development.

(15) Except in certain areas vehicle taxation has scarcely been adopted as a method of taxing motor transport; and in view of the recent substantial reduction of central taxation for general revenues, this source of revenues for road development might with advantage be explored.

(16) There is a general desire that vehicle taxation should be provincial rather than local, and that a system of reciprocal exemptions should be arranged so that each vehicle would be taxed only at the place of registration

(17) The scale of licence fees for vehicles plying for hire depends on local conditions, but it might be considered by the authorities concerned whether licence fees might not be pitched so as to limit the number of vehicles plying on any road to the number that the road can economically carry.

(18) The propriety of financing road development from loans must be decided by each local Government for itself according to its circumstances, but certain principles of general application are suggested.

(19) Loans should be borrowed in the ordinary way on the security of the revenues of India, and not on the security of a special road development tax.

(20) Village roads should benefit indirectly by the release of provincial revenues and local funds which are now being spent on main roads to meet the requirements of motor transport. In view of the importance of village roads in the general scheme of communications, it is hoped that they will receive more attention and larger grants from local Governments and local bodies in future.

CO-ORDINATION OF ROAD DEVELOPMENT.

(1) The appointment of a Central Road Board with executive powers, administering a separate road fund, is not recommended.

(2) A periodical Road Conference, consisting of the Member of the Governor-General's Executive Council in charge as Chairman, the members of the Standing Committee of the Indian Legislature for Roads, representatives of the departments of the Government of India concerned with roads, representatives of the local Governments and, if so desired by them, of Indian States, should meet from time to time to discuss subjects of common interest, and might appoint sub-committees to examine questions of a technical character and report to the Conference.

(3) A separate Road Department in the Government of India would be unnecessary and undesirable; but a Road Engineer with the Government of India should be attached to the department that deals with roads.

(4) The Government of India should reconsider the recommendations of previous

Committees that all matters relating to communications and transport should be dealt with by one department.

MISCELLANEOUS.

(1) The Indian Railways Act and the Devolution Rules should be amended so as to enable the railway administration to contribute towards the construction and maintenance of feeder roads.

(2) A contribution should be made from the Army budget towards the cost of repairing damage done to roads by military transport; and when a road or bridge is required for military reasons to be of higher class than is necessary for civil purposes, part of the cost should be borne from the Army budget.

(3) Monopolies of public motor services on roads are undesirable.

(4) Road tolls on all traffic should be abolished as soon as possible, except tolls on bridges where a definite service is provided to replace a ferry or a bad river crossing.

Economics in the West.

British Economic Statistics.

November 1st, 1928.—During the past few years a marked development has occurred in the supply of statistical information relating to industrial, trading and financial conditions in this country, while at the same time a distinct tendency has been noticeable towards modification of the scepticism with which such material was at one time regarded. The available supply has been supplemented in recent months by some particularly interesting additions, which well repay study in the light of some of the older statistics. Needless to say, it is impossible to establish any perfect relationship between different sets of figures relating to similar fields of activity, but it is possible, nevertheless, with the assistance of more general, non-statistical knowledge, to some extent to test the various series by comparison with others.

It is interesting in the first place to make a comparison of statistics relating to the volume of production. The results of the censuses of production taken in 1907 and 1924 are extremely significant in some directions, as was indicated in the last issue of the "Review", and it is earnestly to be hoped that the collection of this information will be continued at regular and not too protracted intervals in the future. But however short the intervals, the practical considerations involved make it almost impossible that the figures will ever be susceptible of use for purposes of short-period study and tentative forecasting. The Board of Trade has endeavoured to fill the gap to some extent by undertaking to publish quarterly indices of production in a number of industries. The first figures issued, relating to the year 1927 and the first quarter of 1928, were recently discussed in these pages. The results for the second quarter of this year were contained in the *Board of Trade Journal* for October 4. If publication is not to take place until the lapse of a whole quarter after the close of the period to which the figures relate, their utility will be seriously restricted. It is, therefore, to be hoped that the figures will be made available more promptly as the machinery for their compilation becomes more fully developed. At any rate, for purposes of the present discussion the statistics may be more or less ignored since they do not extend over a sufficiently long period for comparison with other data.

INDICES OF PRODUCTION.

The first attempt to measure regularly the volume of production in this country was undertaken by the London and Cambridge Economic Service which in 1924 published a study containing annual and quarterly indices for pre-war and post-war years. These are regularly brought up to date, the quarterly figures being published less than a month after the close of the periods to which they relate. The quarterly indices are not as comprehensive as the yearly, but would appear sufficiently widely based to give a good impression, in conjunction with other data, of the movements in the physical yield of British industry. To some extent they are derived from actual output statistics, as in the case of coal, iron and steel, and shipbuilding, but in other trades they are computed from imports of raw materials, and in a few from exports of the finished products. Indeed, the strong influence of raw materials in fixing the quarterly total index, coupled with the difficulty of making allowances for variations in stocks, renders the figure rather less an index of actual output in the period to which it relates than a guide to the volume of production in the immediate future. The yearly

figures, however, as a result of the more complete and direct information available, provide a more nearly accurate measure of actual output year by year.

Quite recently a new index of production for each year since 1920, prepared by Mr. G. D. Rokeling, has been published in a supplement to the *Economist* and re-published in booklet form. This new annual figure is based upon net imports of raw materials used in the principal manufacturing industries, the consumption of coal in industry and transport, and an estimate of the numbers of workers engaged in industry, transport, trade and agriculture. It will be seen, then, that the two measures of industrial output are quite differently constructed. In a sense the Rokeling index covers a wider field than that of the London and Cambridge Economic Service, for the London and Cambridge index applies more particularly to and is derived more directly from industry, in the narrower sense of the word, while the Rokeling index is indirect in approach and inclusive of a greater variety of business activities.

In addition to these two indices, for nearly eight years past comparable figures have been available of the numbers and percentages of insured workers unemployed. These are generally regarded as giving a rough indication of movements in the volume of industrial activity. Using the word "industrial" in the broader sense, understood in Mr. Rokeling's index, this is probably a quite justifiable utilization of the figures. In the narrower sense, however, implied in the London and Cambridge use of the term, it is doubtful whether, in the absence of established proof, the figures should be taken as an accurate guide, for many of the workers covered by unemployment insurance are not engaged in industry as the word is commonly understood. Thus the latest estimate of the number of insured persons is 11.784,000, and of these over 1½ millions are engaged in distributive trades, three-quarters of a million in transport, and over 1¼ millions in commerce, banking, insurance and finance and miscellaneous trades and services. Few of these workers can be regarded as engaged in industry, narrowly understood.

Comparison of the Indices.

In view of the differences between these three sets of statistics, all designed or accepted as indices of the fluctuations in industrial activity, broadly or narrowly interpreted, it is interesting to compare the movements over longer and shorter periods. It will be noticed, first, that a close parallelism exists between movements in the two yearly indices of production, even though they are based upon widely different material. Each, therefore, gives some confirmation to the truth of the story told by the other. Moreover, since the Rokeling index is compounded partly of statistics of employment, it is not surprising to find a close resemblance between movements in this figure and the annual averages of unemployment, which for purposes of facilitating comparison are displayed on a reverse scale. It is more significant, however, to find a close correspondence between the London and Cambridge annual index which is based largely upon actual output statistics, and the unemployment averages.

The Rokeling index is not available quarterly and it has to be pointed out that in the case of the London and Cambridge index a considerable margin, sometimes on one side, sometimes on the other, exists between yearly averages of the quarterly figures and the more comprehensive annual figures. This disparity, however, is not sufficiently marked to cast doubt on the general truth of both the annual and quarterly indices. Unfortunately, it is not yet possible to establish any conclusive agreement between the London and Cambridge quarterly figures and those of the Board of Trade, though the following table is interesting as an early, but quite inadequate, comparison :—

	Year	1928		
	1927	1st qtr.	2nd qtr.	3rd qtr.
Board of Trade (1924=100) ..	107.5	109.1	103.0	—
London and Cambridge Economic Service (1913=100)	96.2	93.4	91.6	84.8
Do. (re-worked to 1924=100)	105.8	102.8	100 8	93.3

The London and Cambridge quarterly index, however, is particularly significant in conjunction with quarterly averages of the unemployment percentage. Close examination of the movements will reveal a fairly high degree of correspondence, with at some stages a lag of about a quarter between the production index and the unemployment figure. This lag confirms the view, as expressed by the compilers of the index, that the quarterly figure is to be regarded perhaps more as a guide to immediately impending production than as a measure of actual output in the period to which it relates.

It would appear, in the first place, from this examination of some of the available figures, that we are well supplied with satisfactory statistics as to comparative volumes of production, both in the narrow sense of industrial

output and in the broader sense of the national product, including the services of trade and transport, year by year. Secondly, in the London and Cambridge quarterly figures and in the unemployment percentages we have the material for forming a fairly accurate impression as to changes in the volume of production over shorter periods as well as for forming tentative opinions as to the course of industrial activity and general employment in the immediate future. *To these conclusions we shall* revert at a later stage, but for the moment attention should be directed to two other series of business statistics.

The Volume of Trade.

In America plentiful information is available, based upon returns from business houses, as to variations in the volume of wholesale and retail trade. In this country, by contrast, no such direct material is compiled, and the statistics which throw light on the subject suffer from defects which seriously impair their practical utility. Recently, however, the Board of Trade has begun the publication of a new series which would appear to make a useful addition to the available material. This set of figures is made up of returns of post office receipts, excluding those on account of telegraph and telephone, savings bank and money and postal order business. The refined totals for each month are divided by the number of working days to give a daily average, and in addition to publishing the actual figures, the Board of Trade expresses each month's result as a per*centage of the average for the corresponding month in* 1924.

The question at once arises how far these statistics may be taken as indicative of the course of trade. Almost all business of any size involves letter-writing, but a vast amount of correspondence has nothing to do with business, as the term is generally understood. Apart from seasonal movements, however, non-business correspondence would probably vary comparatively little. Again, advertising must account for a large part of the receipts in respect of letters and printed matter, and it is difficult to say whether the volume of this kind of traffic is likely to be larger when business is good and orders easy to secure or when business is slack and competition for orders excessively keen. As to parcels, probably the receipts would be fairly steady, seasonal movements apart, though to the extent that they arise from mail order and cash-on-delivery trade they would tend to vary with the general prosperity or depression. The difficulty of weighing those and other influences is insuper able without detailed internal inquiry, and n idea of the importance of the various item going to make up the receipts included in th figures can be gained from official sources. W do not even know, year by year, how much c the aggregate postal receipts is in respect o letters and parcels respectively. It might hav been well, therefore, had the responsible de partments, in presenting the new series o statistics, *given some details designed to sho* their significance and to indicate to what us they might legitimately be put.

Postal Traffic and Bank Clearings.

It is impossible, in the circumstances, t determine by analysis the utility of the figure as a guide to trade conditions. The only mean of approach to the problem is by considerin them in relation to another set of statistics, o a somewhat similar nature, namely, bank clear ings. The clearings statistics in the aggregat suffer from a grave defect, in that they ar strongly under the influence of financial opera tions having little or nothing to do with trad conditions. The difficulty, however, can b heavily reduced by ruling out of account the London town and metropolitan clearings, a process which leaves only a small, but significant, part of the whole. This part is compounded of the returns of provincial clearing houses, together with the country clearings at the London Clearing House. Even these figures must be subject to changes in the amount of speculation, particularly in the stock *and new issue markets, but they are probably* little more seriously affected than the figures of postal receipts, for the amount of postal traffic must be considerably increased by a big burst of speculative interest in stocks and shares. Consequently, in respect of their association with business conditions the two series would seem to be fairly closely allied.

It must be remembered, however, that the nature of their relations with the volume of business is rather different. Postal receipts represent fees paid for the conveyance of communications, goods and means of payment so that if communications, despatches of goods by post and numbers of payments expand, so also do postal receipts. It remains to be seen whether communications and payments grow or not in number as business grows in volume. Clearings, on the other hand, represent changes in the monetary total, as opposed to numbers, of payments, so that a marked increase of business would naturally be expected to result in an increase in clearings. The clearings figures

would also expand, however, if, without any expansion in business, prices rose, so that to obtain any idea as to whether business is growing when clearings are growing the price element must first be removed. Having done this, however, if any fairly close agreement can be established between postal receipts and clearings the fact would seem to confirm them both as moderately reliable guides to current variations in the volume of business. . . . .

CHANGES IN THE NATIONAL INCOME.

We have seen from this brief survey and examination that it is possible, from data now being regularly published, to obtain a fairly reliable idea of the conditions, year by year and quarter by quarter, of British trade, and in addition to form an opinion as to the probable conditions in the immediate future. The statistics we have examined are by no means all-inclusive, for other useful series exist; but we have chosen those which seemed specially suitable for testing the newly available data. It remains to see how far we are equipped to judge of the general economic results of varying trade conditions. Aesthetic and spiritual considerations apart, the aim of the entire economic organization is to provide, with a minimum of effort, a maximum real income for the members of the community. This is what is meant, in the economic sense, by a high standard of living, and economic progress consists in the maintenance of a constant upward movement in the standard of living.

On this line of inquiry a very ingenious effort has been made in the work by Mr. Rokeling mentioned above. As already pointed out, the index of production computed in this study is constructed in such a way as to reflect not so much pure industrial output as the volume of the total product of all goods and services. It represents, therefore, a measure year by year of the real income of the community arising within its own borders. With this index Mr Rokeling fuses another, based on official estimates, of the net real income from investments overseas, and thus arrives at an index of the aggregate real income of the country from home and abroad. Applying to this aggregate figure a measure of the yearly increase in population, the final result is in fact an index of the average individual real income, or, as the author describes it, an index of national prosperity.

Unfortunately the figures are not carried back to pre-war times, but run from 1920 to 1927, with 1924 as the base. The following table is a partial reproduction of that appearing in the *Economist* supplement :—

	Indices of				
	Production*	Net real income from abroad*	Aggregate real national income	Population	"National Prosperity"
1920 ..	101	51	99	98	101
1921 ..	75	98	76	98	77
1922 ..	88	93	88	99	89
1923 ..	93	89	93	99	93
1924 ..	100	100	100	100	100
1925 ..	99	121	100	100	99
1926 .	90	145	92	101	91
1927 ..	105	153	107	101	105

* These indices are given weights of 96 and 4 respectively in arriving at the total index.

It will be seen that the figures in the last column follow closely general impressions as to the course of our economic welfare since the war, though it is perhaps surprising to find the 1927 index higher than that for 1920. One particularly interesting feature, however, is the relatively slight slump in the index in 1926, a year of great industrial disorganization due to labour disputes, as compared with the much heavier slump in 1921-22, a period again of great industrial disorganization, but due mainly to other factors, of which the catastrophic fall in world prices was the chief. If the figures are accepted as a reasonably accurate measure, the conclusion must be that great, overshadowing, international, and perhaps not wholly uncontrollable influences, such as rapid changes in price levels, are far more powerful in their effects than the worst labour disputes we have experienced. This is not in any way to minimize the effects of labour disputes, which are deplorable in the extreme, still more so because there is no excuse for our not having by this time reached a stage where industrial disagreements can be amicably settled without seriously depressing the general standard of living.

GROUP VARIATIONS IN THE STANDARD OF LIVING.

It will be noticed from the table that the index for 1927 was 105, using 1924 as 100. As pointed out in this "Review" a month ago, however, it seems probable that our real national income is little larger to-day than before the war. The figures shown above do not reveal any strong re-assertion of the upward trend of pre-war years, while the 1928 index, to judge from figures so far available, is likely to fall below last year's. When relating this result to the standard of living, however, there is always a grave danger in speaking in terms of a general index, covering the whole community.

In the October issue of the *Ministry of Labour Gazette* are set out the results of a detailed comparison of wage rates just before the war and in September 1928. The changes have varied widely as between different trades, some showing only a 20 per cent increase, some over 100

per cent, but the aggregate result, put forward quite tentatively since the material is incomplete, is that weekly full time rates had increased over the period by about 70 to 75 per cent—a result which compares fairly closely with Professor Bowley's monthly index number published by the London and Cambridge Economic Service. Meanwhile the cost of living index had risen by about 65 per cent and this fact, coupled with considerable reductions in hours of work in many industries, would seem to imply a distinctly higher standard of living, in some trades in particular, and among wage-earners as a whole.

The figures just quoted show that a higher standard of living prevails among those workers who are lucky enough to be at work, on full time. As everyone knows, however, large numbers of the wage-earning group are altogether devoid of employment or are working only part time, and these people, with their dependants, are living at a standard far below that generally enjoyed before the war. The fall in the standard of living in this group is heavy enough to balance, or almost balance, the rise among wage-earners actually at work on full time, so that the average standard throughout the entire group would seem to be little higher than in 1924 and no higher than in 1913. This conclusion agrees with that reached by other routes, namely, that the average standard of living, taking the entire community together is little if any higher than before the war. Unequal group movements have certainly taken place, fully employed wage-earners are on the whole better off, though even within this group wide disparities are observable, some being worse off, some considerably better; wage-earners partially or wholly idle are much worse off; and in the aggregate the entire community, in point of average individual real income, is probably at about the same level as in 1913. Until full economic activity is restored the technical and functional improvements which are constantly being carried out in industry, transport and trade cannot confer their full benefits on the community in the shape of a higher general standard of living.

THE USE OF STATISTICAL DATA.

These considerations lead us to some interesting conclusions regarding current supplies of statistical information. We have seen that satisfactory data are available to throw light on recent, current and shortly supervening conditions in trade and industry. We have seen too that good indications are to be found of the long-term movements in national material welfare. But we have observed perhaps more clearly still how carefully, and with what circumspection, mixed with scepticism, the data must be handled. It is not enough to seize upon the results of intermittent or continuous statistical inquiry and swallow them, with the faith of a dog in the *bona-fides* of his beloved master, as unquestionably wholesome food. The process of arriving at the results must be examined, and care must be taken to ensure that no more is read into the results than they are qualified to convey, either by themselves or in conjunction with other figures. And to this end it is very desirable that in putting forward any new series of statistics some authoritative guidance should be given as to how they are prepared and what significance they bear. The problem at the moment is not so much to increase the volume of available statistical data, but rather to learn just how to use the material to the best advantage and with the smallest risk of being led astray. Statistics are like proposals of marriage—they should be, but rarely are, studied and considered, very deliberately, upon their all-round merits.

The movement for the restoration of an effective gold standard has gained impetus from the resolutions passed by the Tokyo Chamber of Commerce and the special committee of the Tokyo Clearing House advocating the abolition of the embargo on the export of gold. The Chamber suggests certain preliminary precautions, such as the temporary prohibition of investment in foreign securities, but the Clearing House favours the immediate removal of restrictions. Osaka bankers are expected to follow suit. The Finance Minister declares that under the present economic conditions the abolition of the embargo is impossible. There is still no indication that the Government has changed its view that the restoration of a free gold market must await a recovery in exchange.

The first 20,000 h.p. unit at Grand Falls, on the Saint John River, New Brunswick, was put into operation recently. Designed for four units of the same power, the new plant will be the largest hydro-electric development in the Maritime Provinces, and its water pressure tunnel, 2,755 ft. long and 24½ ft. in diameter, is the largest in Canada. The energy generated will be used in pulp and paper mills now being constructed or enlarged in New Brunswick.

Canadian Trade and Finance.

Review of Business Conditions.

Montreal, 1st November 1928.—With harvesting completed, or nearing completion throughout the country, the farmers are engaged in full ploughing and in the preparation of the land for the crop of 1929. The Canadian wheat crop as a whole has been the largest on record amounting to about 575 million bushels.

An average of the crop estimates of the Dominion Bureau of Statistics, the Manitoba Free Press, and the North-West Grain Dealers' Association indicates that crops of the three prairie provinces will amount to 540 million bushels of wheat, 315 million bushels of oats, 115 million bushels of barley, 15 million bushels of rye, and 4 million bushels of flax. Although August frost damaged the wheat in Saskatchewan and Alberta to a substantial degree, preliminary statistics indicate that wheat will grade much better than in 1927-28 and that protein content will be exceptionally high. The early harvest has permitted rapid movement of the wheat toward the seaboard and some congestion is reported at the terminals. Even though prices should remain somewhat lower than last year, the price factor will be largely offset by the large size and good quality of the crop.

In the other provinces the season has been normally satisfactory for agriculture. In British Columbia, the apple crop has been heavy and though the price of apples is lower than in 1927 the fruit-growers are expecting a profitable return. The October movement of apples from Vancouver to the United Kingdom and to the Continent is likely to establish a new record.

In Ontario and Quebec, crops have proved more satisfactory than was first anticipated. A late spring retarded farm work, but exceptionally favourable weather during the summer improved conditions substantially. Reports from the Maritime Provinces indicate that the potato yield will be above the average, in spite of the blight which appeared in Prince Edward Island. Apples are of good quality, but in both New Brunswick and Nova Scotia a smaller crop than last year is anticipated.

In the first eight months of 1928, the amount of iron and steel produced in Canada exceeded the amount produced during the same months of 1927 by more than 20 per cent; the newsprint production of 1928 exceeded that of 1927 by 15 per cent; that of automobiles by 20 per cent; and that of flour, by 16 per cent. The amount of energy generated in Canada for Canadian use in 1928 exceeded the amount generated in these same months of 1927 by 19 per cent. Canadian manufacturing activity has been at a much higher level in 1928 than during 1927, and 1927 was a year of record-breaking activity.

The Dominion Bureau of Statistics' "Preliminary Report of Mineral Production of Canada for the six months ending June 30, 1928" shows that the value of minerals produced in this period was $105,600,000 compared with $99,000,000 in the same months of 1927. The greatest gain was shown in copper, of which the total production amounted to 93,000,000 pounds, compared with 73,000,000 pounds. The value of gold production increased from $17,800,000 to $18,700,000 and the quantity and value of nickel production increased by about one-third. The total increase in the value of the metals amounted to $6,500,000.

In a letter of this type it is not possible to deal with individual mines, but bulletins from the Department of Mines in Ottawa have contained interesting news of the recent development in a number of the more important mining areas. In the bulletin, "The Search for Oil in Western Canada", there is a statement of the progress of the Turner Valley field, a short description of the Wainwright field and the suggestion that the area along the Alberta-Saskatchewan boundary to the east of the Wainwright field may prove most interesting. "The Recent Progress of the Rouyn Mining Area" contains estimates of the ore values in some of the newer explorations, particularly at the Horne mine, and "The New Fuel Research Laboratories of the Department of Mines" is a description of the new fuel research laboratory which will be the best equipped one of this type in North America.

The exports of lumber from British Columbia for the first six months of 1928 are 30,000,000 feet ahead of 1927. Comparative statistics show that there have been large increases in the sales to the Atlantic seaboard of the United States and Canada, to Japan, and to the United Kingdom, and a rather sharp decrease in the amount exported to Australia. Increase in recent sales to Australia, however, give promise that the full year's exports to this market will make a more favourable showing.

With agriculture prosperous, manufacturing plants active, building construction achieving

new records in all parts of the country, and mines producing increasing quantities of ore, it is not surprising that the employment index for each month in 1928 should be well above the level of the corresponding month of any previous year. Import and export statistics reveal a large volume of trade and all indices of Canadian business conditions show that the country is enjoying a sound prosperity. A continued broad and steady development of the type indicated by these statistics from agriculture, mining and manufacturing, will be of greater service to the ultimate welfare of the country than a sudden boom. From this viewpoint, the present tightness of money constitutes a healthy restraining influence preventing over-speculation and too rapid expansion.

TRADE WITH THE BRITISH WEST INDIES.

Study of recent statistics indicates that the effect of the treaty of 1925 between Canada and the British West Indies has been an immediate and reasonably large increase in the value of this trade,—an increase of $11,000,000 or about 33 per cent in three years. Canadian imports from the British West Indies during the twelve months ending July 30, 1928, amounted to $25,000,000 as compared with $18,000,000 in the corresponding months of 1925, and in 1928 exports amounted to $19,000,000 as compared with $15,000,000 in 1925.

While a superficial statement of this trade relationship may make it seem disproportionately favourable in promoting West Indian exports, closer analysis of the preferential tariff rates granted by the British West Indies and of the potential volume of their imports, would seem to indicate that Canadian exporters have not yet taken full advantage of the benefits of this treaty.

Readjustment in the channels of trade for basic commodities takes place at a more rapid rate than changes in the distribution of manufactured goods. So far as this trade consists of imports of sugar and molasses, and the export of flour, fish and lumber, the adaptation to the new conditions is well advanced. So far as this will consist of an increase in the Canadian exports of manufactured goods and an increase in imports of bananas, oranges and grapefurit, however, the expansion has been delayed by the lack of satisfactory transportation facilities and of marketing organizations which will popularize the products of the West Indies in Canada and the products of Canada in the British West Indies. Now that ships and refrigeration have been provided and harbour facilities improved, the next step is the organization of marketing. Representative men from the British West Indies have visited Canada to study Canadian methods of marketing fruits and vegetables. Banks, shipping companies and merchants have been consulted concerning the best form of marketing organization. Canadian produce dealers have been interviewed about best seasons for sales, details concerning packing and the necessity for the standardization of the quality of fruit and vegetables. Definite efforts are being made to secure the co-operation of exporters and producers throughout the British West Indies in creating an influential marketing organization. To be effective, this organization must be adequately financed so that it can also direct its efforts toward the popularization of West Indian products in Canada. The Canadian-West Indian League has used its influence throughout the islands to secure general recognition of the importance of Canada as a market for British West Indian products.

The Canadian-West Indian League, the Exports Club of Montreal and of Toronto and the Commercial Intelligence Service in Ottawa have co-operated in spreading information among Canadian manufacturers concerning the extent of the generous preferences which have been granted by the British West Indies. Numerous individual manufacturers have asked their bankers and the Canadian Commercial Intelligence Service to secure consumption statistics, tariff rates and other information designed to assist them in exporting to the West Indies. In each country there has been well-organized effort to promote this trade and to foster the interest of those merchants and producers who will ultimately secure the greatest benefit from the provisions of the treaty.

For the Canadian manufacturer who wishes to sell in the West Indian market, a knowledge of the extent of the preference granted on his particular products is of prime importance. In British Guiana, the general tariff on boots and shoes amounts to 90 per cent *ad valorem*, but the duty on boots and shoes from Canada is only 30 per cent. In Barbados, the general tariff is 30 per cent and that on Canadian boots and shoes is only 10 per cent and in most of the other islands the general rate is 20 per cent as compared with 10 per cent on Canadian shoes. Yet, as late as 1926, the value of the shoes from the United States sold in the British West Indies was seven times as great as the value of the Canadian shoes sold in this market. Throughout most of the islands the preferential rate on Canadian flour is sufficient to give Canadian millers a monopoly. Canadian

butter now dominates the market and the amount imported from the United States is rapidly decreasing. There is sufficient variation between the tariff rates in a number of the islands for more detailed information to be necessary for the individual manufacturer who wishes to know the full extent of the preference which will be accorded to his goods.

The listed articles are those which Canada is already exporting to the West Indies. The next to the last column of the table indicates the extent to which the preferential duty, the special shipping facilities and the close relationship of Canada with the British West Indies have enabled Canadians to secure this market for their own products. Yet this list does not give a complete idea of the extent of the preference which the islands have granted to Canada. Though each island has a few items listed as "Free" under the general tariff, the tariff code of each island is rather short, and most of these codes contain the provision that all unlisted articles shall bear a 20 per cent rate under the general tariff as compared with a 10 per cent rate for British goods. Certainly, it would seem probable that a net preference amounting to 10 per cent of the total cost of *the article should be sufficient to permit further* increase in the variety of goods exported. Though it is true that no one not intimately acquainted with the conditions in a particular industry, is able to state how much preference is necessary in order to enable a manufacturer to compete in a particular market, yet it is a fact that the conceded rate of preference has been sufficient to open this market to a wide variety of Canadian products.

The Maritime Provinces have always taken advantage of the opportunities afforded by this trade. Quite aside from the export of fish, lumber and potatoes, there is a reasonable prospect that some lines of manufacture which might not be profitable otherwise in the Maritime Provinces may now become feasible. In any case, a large proportion of the new trade which will develop under this treaty will pass through the ports of Halifax and Saint John and will be handled by the Maritime merchants who have a background of generations of experience in trade with the British West Indies.

During August 1928, the average number of kilowatt hours of electrical energy generated in Canada for Canadian use amounted to 37,812,000 compared with 32,898,000 in 1927 and 25,075,000 in August 1926. The increase of August, 1928, over August, 1927 amounted to only 15 per cent as compared with an average month by month annual increase of 19 per cent during recent months. This apparent retardation in the rate of increase was due to the exceptionally large amount of electrical energy generated in August 1927. In each month since the beginning of 1928, except May, the average amount of electrical energy generated has exceeded the average amount generated in the corresponding months of 1923, 1924 and 1925, by more than 100 per cent.

The average amount of electrical energy *generated daily in the month of January*, 1923-24-25, was 18,247,000 kilowatt hours. If this average production is taken to represent 100, then the production in January 1927 may be represented by the index number 176, and that of January 1928 by the index number 213. This type of index number eliminates seasonal fluctuation, since January 1928 production is compared with the average production of January in 1923, 1924 and 1925. A like calculation compares February production of 1928 with the February production of 1923-24-25, and so with the other months. It will be noted that May is the only month in 1928 where this index number falls below 200.

To popularise the Mysore Domestic Basin, improved Silk Reeling Appliance, the Mysore Government have issued the following concessions:—The basin may be purchased on the hire purchase system. Though the cost of manufacture of a basin of 5 units amounts to about Rs. 800, the appliance can be had for Rs. 600, the extra cost being borne by Government. This concession will be operative for only a year. Spare parts are kept by the Sericultural Department. Free service of a trained mechanic will be made available to purchasers. Training classes have been opened at Closepet and Sidlaghatta and three more will be opened.

Persons desirous of buying these basins may apply to the Director of Industries and Commerce, Bangalore.

The advantage of asphaltic surfacing of roads is again emphasized in the annual report of the Highway Department of Sheffield City Council, which states that this system has practically superseded the use of granite setts and wood blocks. Asphalt laid in 1916 is still, it is stated, giving good service, and no street asphalted by the Corporation has yet worn out. On March 31 last year there were 886 000 super yards of asphalt in the city, of which 122,000 yards had been laid during the year by the Corporation staff.

Industrial Notes from London.

Rationalization of Industry.

London. Addressing the quarterly meeting of the Association of British Chambers of Commerce at the Hotel Victoria the President, Mr Gilbert Vyle, said that they intended to seek their annual interview with the Chancellor of the Exchequer in good time before he prepared his Budget. They would take every opportunity of pressing upon him the absolute necessity of every wise curtailment in national expenditure as well as the necessity for a postponement of all legislation that added to the burdens of local authorities, burdens which, through the imposition of rates, handicapped so severely all our industries in competition with other countries.

The Foreign and Colonial Affairs Committee had begun a special investigation into the disparities in freight rates between goods shipped in British ships from the U. K. ports and the rates charged by similar ships from Continental ports. These disparities were very difficult to understand and many representations had been received from British Chambers of Commerce abroad that these disparities were a serious handicap on the sale of British products in neutral markets.

Discussing the work of the Home Affairs and Transport Committee, Mr. Vyle said that as the main principles involved in the change over under the new Act had been settled, it was now necessary that there should be local conferences of representatives of both railways and traders to deal with difficulties that arose in railway working from day to day. They would like the railway representatives to be given more power to determine matters.

The President said they had heard a good deal lately of "rationalization," and it might be well that they should clearly understand what it meant. As far as he understood, it was the conduct of an industry in such a way that the price of its products was fixed, and by the aid of whole or partial monopoly the agreed selling price was maintained without relation to costs of production. The condition essential to successful rationalization was the absence of competition, and as all of them were consumers, it was proper to inquire whether such a method of systematizing industries was a good thing for the community as a whole. If the rationalization of an industry was international, the consumer lived under a form of prohibition which was not acceptable even to those who had strong protectionist leanings. The consumer surely must be free to purchase what he desired to buy, even if he had to be charged more for gratifying his personal selection. Rationalization might be said to be a lineal descendant of "trustification," and whilst combination of industrial groups could and did result in increased efficiency and substantial economy in every phase of production, at the same time giving better condtions and more stable employment to those engaged in the industry, entire success could not be achieved until these benefits were shared in a liberal degree with those who purchased the products. The complaint of the consumer that he was being exploited by a rationalized industry might produce effects that no industrialist desired to see. It might evoke a larger control of industry by the Government of the day or it might give rise to suggestions that the profits earned on industrial capital should be limited, with all of which they were in profound disagreement. Competition had often been said to be the life blood of business, and although complaints of unfair competition were sometimes heard, it seemed to him that anything which had for its object a complete removal of stimulating competition, which was the strong safeguard of the consumer, should be very carefully considered.

Life Assurance as an Investment.

The British insurance companies are making life assurance increasingly attractive. Thus two well-known mutual offices have recently announced considerable reductions in the rates of premium charged for non-profit assurances. This tendency is apparent in the world of life assurance as a whole. In these circumstances, it might seem to be explaining the obvious to draw attention to the merits of life assurance as an investment. But the evidence indicates that this is not the case. Britain, in fact, is considerably under-assured as compared with some other countries; and this is the less excusable since Britain is on the whole admirably served by its insurance companies. It has been well said that the first duty of the investor who has dependants is, after providing for the necessaries for existence, to assure his life. And, apart from being a duty, it is a sound investment. Assuming that the company has been chosen carefully, life assurance gives a good return; there is no danger of capital depreciation and other anxieties inseparable from Stock Exchange investment are absent;

. . . it involves compulsory saving. Moreover, . policy is often useful as providing security . a bank loan, while most policies have a . own surrender value—that is to say, in the . ent of the policy-holder being unable to con- . ue the payment of his premiums some return . made to him. There are various secondary . tractions in policies, some, for instance, being . sued in connection with house purchase . ilities.

AN IMPORTANT IRON AND STEEL FUSION

The heavy industries of this country, includ- ng the coal and the iron and steel trades, have . en well advised to embark upon a policy of rationalization". There is welcome evidence hat the industries are realizing, if somewhat ardily and grudgingly, the merits of "ration- alization," a further important scheme having . en announced during the week. Thus pro- . osals involving the amalgamation of the South Durham Steel and Iron Company and the Cargo Fleet Iron Company, having combined assets xceeding £5,000,000, have been submitted to he shareholders. These concerns are already losely connected, being members of the Fur- ess group, but actual amalgamation is expect- d to result in important economies. The ompanies, and especially the South Durham ndertaking, are noteworthy for the compara- ive soundness of their finances, which is mainly attributable to their prudent policy with regard to capital during the boom years. The South Durham Company, despite the severe nd prolonged depression in the heavy indus- ries, has throughout made a return to its ordi- nary shareholders, the last distribution being . per cent. In these circumstances, the com- pany's 1½ per cent perpetual debentures, re- turning £5 18*s*. per cent and the 6 per cent umulative preference shares, yielding £6 per ent, deserves the investor's careful attention. t is believed that the combined undertaking under any reasonable conditions of trade will be able to earn a fair return on the ordinary apital. The terms of amalgamation appear quitable.

ELECTRICITY SUPPLY SHARES.

We have frequently recommended the shares of electricity supply companies in this column. There is now a tendency, however, for buying o be based on hopes which may easily lead to disappointment. The current yield on the majority of the leading London and provincial companies has fallen to a low level, often being under 4 per cent. Clearly there has lately been a considerable rise in share values. In- deed, the question arises as to whether the more recent advances are fully justified. Several considerations, it would seem, have prompted the buying. First, there are hopes that the companies, owing to expanding business, will have to increase their capital which will be raised on bonus terms. This has already been done on a fairly large scale and cannot continue indefinitely, since capital will not be raised regardless of whether it will earn a return. Secondly, it has been suggested that when the national scheme is in operation the companies will be able to effect substantial economies. To a large extent, however, these economies have been anticipated and too much should not be hoped for in this direction. Thirdly, the possibility of American buying for control has been held out as an attraction. The present signs seem to indicate that further action on these lines is improbable. In all, therefore, many electricity supply shares are, to say the least, fully valued for the time being.

LANCASHIRE POSITION.

The industrial position throughout Lanca- shire is about the same as a month ago, though distinct signs of improvement are visible in some sections of the cotton trade. The opinion is held in many quarters that spinners and manufacturers will improve their position in the near future. Production in both spinning and weaving has been larger, but in general the unemployment figures have hardly changed. A further increase in short time for cotton operatives appears not improbable though some firms in the Bolton district are re-start- ing idle machinery.

Combine Schemes.—Since early in July a special sub-committee of the Master Spinners' Federation has been considering the question of financial reconstruction of the mills spinning American cotton. Draft proposals have been published, but some difficulties have still to be surmounted, and it is anticipated that the scheme will have to be amended before it is acceptable by mill-owners. It is understood that a further development is about to take place with regard to the experiments made by manufacturers, merchants and dyers in the way of consigning goods abroad under the joint auspices of a number of firms. It is expected that at an early date a company will be regis- tered for this purpose.

Yarns.—Although American yarn prices have been affected by the movements in the price of raw cotton, they have on the whole remained firm, with a tendency to harden. This is accounted for in part by the less satis- factory crop news from America. Spinners are

experiencing difficult times, but thanks to increased bookings they are not under the same pressure to sell as recently. On October 23 the price of 32's American twist was 15¼*d*. per lb. as compared with 15½*d*. a month earlier, while during the same period 40's weft advanced from 16*d*. to 17*d*. per lb. Spinners of Egyptian yarns have experienced a keener demand, and the turnover has improved. On October 23, the price of 60's twist was 28*d*. per lb., the same as a month earlier. Business in export yarns has been irregular though some fair contracts have been arranged for India in single and two-fold descriptions, and in both coarse and fine counts for the continent. Shipments of yarn during September amounted to 11,241,500 lbs. as compared with 15,773,600 lbs. in August and 15,807,200 lbs. in September 1927.

Piece-Goods.—The overseas inquiry for piece-goods has been considerable and persistent. Contracts, however, do not appear to have been evenly spread. Some shippers and merchants state that orders booked have been almost double those for the previous period, while others are unable to report any substantial increase. In the circumstances it is difficult to gauge the extent of the turnover. Inquiry has been plentiful from India where Calcutta seems to be the most encouraging market. Fresh business has been done in mulls, jaconets, dhooties and other light fabrics. Grey shirtings have been asked for but few sales have taken place. Bombay, Karachi and Madras have been quiet though occasional deals in prints and bleaching descriptions have been carried out. Traders have been further encouraged by the favourable reports from China. White shirtings and grey staples have been more active, and the auction news from Shanghai has been good, both clearances and prices having improved. Singapore, however, has lent little help except in fine fabrics. Egypt and the Near East have remained quiet, but there is increased demand from Australia, Canada and West Africa. The continental demand, which has been quiet, has been for fine fabrics. The home trade has experienced better clearances, and the South American demand shows no signs of falling away. Shipments of piece-goods during September amounted to 298,228,100 sq. yds. as compared with 341,285,300 sq. yds. in August and 339,046,000 sq. yds. in September 1927.

Economic Notes.

Exports of Leather from Madras.

The Report on the Sea-borne Trade of the Madras Presidency for the year 1927-28 states: The total value of leather went up from Rs. 611.12 lakhs to Rs. 783.77 lakhs and covered nearly 18 per cent of the total export trade. Shipments of tanned hides expanded from 9,770 tons to 13,877 tons in quantity and from Rs. 231.53 lakhs to Rs. 318.26 lakhs in value, 81 per cent of which was covered by tanned cow hides, 6 per cent by buff hides and the remainder by calf skins (buff and cow). In the total shipments of tanned hides, the share of the United Kingdom rose from 9,653 tons to 13,231 tons or by 37 per cent and comprised 95 per cent of the trade in this commodity. This large increase in the shipments to the United Kingdom may be attributed to the following causes :—

(*a*) General trade recovery in England and consequent improved demand.

(*b*) Better trade prospects with the United States of America.

The United States of America took 665 tons *as against 100 tons, an increase of 556 tons*, as a result of the serious shortage of hides in America. Exports of tanned skins of which 50 per cent were goat skins and 49 per cent sheep skins rose by 291 tons in quantity and Rs. 23.88 lakhs in value. The share of the United Kingdom improved from 4,743 tons valued at Rs. 324.97 lakhs to 5,308 *tons* valued at Rs. 367.68 lakhs, while that of Japan declined from 585 tons valued at Rs. 36.75 lakhs to 533 tons valued at Rs. 28.86 lakhs. The United States of America also reduced her takings by 246 tons to 237 tons in quantity and by Rs. 13.15 lakhs to Rs. 17.22 lakhs in value. The fall in the exports to the United States of America was due to the fact that the States obtained their supplies mostly through London and not directly from Madras. The total shipments of tanned hides and skins together expanded by 1,398 tons in quantity and by Rs. 140.61 lakhs in value, the increase being due to the unusual demand caused by a general shortage of hides in other producing countries.

An Old Mysore Official.

Among the many officers from British India who have taken service under the Government of H. E. H. the Nizam of Hyderabad must be mentioned the name of Mr. K. S. Rao, till

;ently Textile Expert to the Government of ;har and Orissa. Born in Kundapur on the ;est Coast and educated in the local school, . Rao was early sent by his father, who ished him to take up an industrial line in eference to Arts, to Bangalore as an ap- entice in mechanical engineering in the ysore Mills under the management of his usin, Mr. N. S. Sirur. After three years of enuous work, Mr. Rao proceeded, in 1908, n a scholarship from the Mysore Government, the Victoria Jubilee Technical Institute at ombay to study textile manufacture At the me time he passed the examination under the ombay Boilers Act and obtained a second ass mechanical engineer's certificate. He cured a large number of prizes and scholar- ips and the Lord Reay Gold Medal for having ored the highest number of marks in the hole Institute at the final examination With ecial training from his professor, Mr. W. T. mfret of Blackburn, he appeared for the nours grade examination in spinning and eaving held in Bombay by the City and Guilds London Institute and qualified himself for eir full technological certificate. He was en, it is remarkable, the only Indian to hold ch a distinction and had to submit original signs for textile designing.

Scarcely had he completed his studies when was called upon to erect a small weaving ill at Shikarpur, Sindh. He was then ap- inted Textile Assistant to the Mysore Gov- nment and served under Sir Alfred Chatter- n. During the nine years he was in the ser- ce of the Mysore State he was responsible for nsiderable developments in the industry and r the designing and invention of a large mber of labour-saving appliances for cotton d silk weaving. One of these is the hand- rked sizing machine exhibited by the ysore State at the All-India Hand Weaving hibition held at Patna in 1921 it was arded the first prize

From Mysore, Mr Rao went over to Bihar d Orissa as Textile Expert to that Govern- nt under the directorship of Mr. A. B. llins. The organization of peripatetic de- onstration parties of a more or less permanent aracter was a great help to the scattered lage handicrafts: and in this work Mr. Rao n the appreciation of his superiors. In 1924 was in Europe on study leave to acquaint nself with the latest developments in textile ucation and organization and he then read interesting paper on the Textile Industries India before the British Empire Textile Con- ence held at Wembley. Mr. Rao's career in Hyderabad as Assistant Director of Indus- tries will be watched keenly by all his well- wishers in the country.

Trade Delegation to Australia.

The first annual dinner of the Indian Cham- ber of Commerce, established in London last year, was held there very recently when dis- tinguished guests including the Dominion High Commissioners, representatives of the Depart- ment of Overseas Trade and also of Germany, Holland, Belgium and Japan attended. The most gratifying feature of the occasion was that the Australian High Commissioner invited India to send a delegation to Australia with a view to investigate the possibilities of increas- ing Indian trade. It was in the fitness of things that as a response to this liberal invitation Sir A. Chatterjee, High Commissioner for India, should have suggested to the Australian High Commissioner that there was a large market in India for Australian fruit We have every hope that the various Chambers of Commerce and Trade in India will catch the idea and be prompt in receiving the hand of fellowship ex- tended by Australia.

Buy Cheap Indian Cotton.

The efforts of the Cotton Yarn Association to improve the condition of the American sec- tion of the cotton-spinning trade of Lancashire by the provision of statistics, the regulation of prices and production, and the formation of a combine were outlined in considerable detail at the first annual meeting of the Association held at Manchester on June 12. Mr. J. L. Tattersall, the president, occupied the chair. While referring to the necessity of forming a big combine of Lancashire mills to meet foreign competition Mr. Tattersall said: In a few days a report was to be issued showing details of costs of production in Indian mills. Not satisfied with their home trade, Indian spinners were now going out to the whole world to get trade, and there were also Japanese and American commissions on the same quest. In contrast, Lancashire spinners and manufac- turers, still the greatest in the world, were doing nothing in that respect. Last year India received 350 000 bales of American and 61 000 bales of East African cotton and the bulk of the remaining cotton in East Africa—which should come to this country—was going to Japan. The best Indian, too, should come here. We were losing a great amount of trade because we were not importing the cheap Indian cotton which the Indians, Japanese and Chinese were using for their coarse numbers.

Last year the exports of yarn from Bombay were 28,000,000 lbs. and of cloth 187,000,000 yards. Of that yarn 6,000,000 lbs. went to Egypt, 3,000,000 to China and Siam, and 350,000 to England, and of the cloth 40,000,000 yards went to East Africa, 23,000,000 yards to the Straits, and 1,000,000 to Egypt. Finally, in an appeal to merchants to emulate Japanese, Indians and Americans in the search for markets, Mr. Tattersall said they wanted merchants to see that the cotton grown in India and East Africa came to this country. If they would not bring it the spinners themselves must form some organization to bring it here, says the *Manchester Guardian*.

Monetary Outlook for 1928.

The City Editor writes in the *Manchester Guardian Commercial*:—The new year finds the London money market busy speculating upon the course of rates in the next few months, and in particular upon the chance of a 4 per cent Bank rate within that period. At the moment the feeling is vaguely optimistic, but optimism at this time of the year when short-term money is temporarily glutting the market and when a Government conversion scheme is in process, is rather to be distrusted, and it is to be doubted whether there is any real expectation of any alteration of the Bank rate for at least some weeks to come. The fact of the matter is that our monetary situation, though apparently more favourable than at any time since the return to the gold standard, with the American exchange at over 4.88 and with gold flowing in from the United States and Canada, is in its international aspect more than usually obscure. The principal uncertainty is still, as it has been for months past, the attitude of the Bank of France. Would a ½ per cent fall in our Bank rate induce the Bank of France to convert its sterling wholesale into dollars? It is not at all easy to answer this question even on purely commercial lines, because it is always difficult to choose the comparable London and New York rates. Thus the New York discount rate for bank acceptances is now about 3⅝, or ⅛ per cent below the presumptive London market rate (assuming a continuance of the control of the Bank of England) for three months' fine paper under a 4 per cent Bank rate, but the New York time-money rate at about 4¼ per cent would probably be quite as high as would be obtainable on a three months' deposit in London with the Bank rate at 4 per cent.

Moreover, it must be remembered that with equal rates in London and New York it would, with the exchange in favour of London, be profitable to transfer money from London to New York, because some time or other when the dollar appreciated to parity or higher there would be an exchange profit to be netted; in fact, such a profit could be secured at once by selling dollars forward. This inducement to the Bank of France and other holders of sterling to convert into dollars would, however, quickly disappear since the exchange would fall and the premium on forward dollars vanish, and it seems probable then that something like equilibrium of attraction between the two centres would be established. Provided, then, that the Federal Reserve rates remain at 3½ per cent it does not seem likely that we should run any great risk by reducing the Bank rate to 4 per cent. Some temporary sterling balances would be withdrawn, and the London-New York exchange would quickly drop back to parity but there would be no reason to look for any dangerous pressure on the exchanges.

Apex Bank of Mysore.

The Mysore Provincial Co-operative Apex Bank has made considerable progress during the last few years. It commands a membership of 962, of which two-thirds are society members. Its total working capital is 15½ lakhs of rupees. The progress, so far made, is claimed to compare favourably with other institutions of this type in some parts of British India and the Indian States. The growth of public confidence in the bank is evident from the fact that the deposits held have increased by nearly 60 per cent during the last official year. This steady growth of public confidence is one of the happiest auguries for the future progress of the bank and of the movement as a whole. The bank has so far financed 204 societies in the State to the extent of nearly 19 lakhs. One of the first objects of the bank is to finance rural co-operative societies at cheap rates of interest at the right time to enable their members to make agriculture a more remunerative industry than it is at present.

The first volume of the revised edition of Sir J. J. Thomson's "Conduction of Electricity through Gases," in the preparation of which Professor G. P. Thomson has collaborated with his father, is expected from the Cambridge University Press shortly. The growth of the subject has made it necessary to extend the work to two volumes. Volume I deals with "The General Properties of Ions and Ionization by Heat and Light".

Topics in the Journals.

Agricultural Labour.

In a well-written article (in the March *Rural India*) on the problem of Agricultural Labour Rao Bahadur A. Vedachala Iyer makes some suggestions that deserve more than a passing notice. He points out:—

What is wanted is regular organizations in villages to regulate labour by bringing into them all the producers together and arranging for equitable distribution of profits among the component parts. We have also to secure insurance against sickness, old age, etc., of labourers and provide against accidents due to causes beyond one's control such as cattle epidemics, famine, flood damages, pests, etc. Real insurance consists in the creation of adequate staying power and also of labour facilities during times of distress. The creation of a famine insurance fund by Government out of which it doles out charity to sufferers is not a satisfactory arrangement as the distribution of such doles is often belated and entrusted to unsympathetic and sometimes dishonest subordinates. The village organizations should evolve schemes to arrange for labour's sustaining power by conserving the income on safe and business lines and distribute such facilities in an equitable way under its control. Such organizations should be bankers for accumulating the savings of labour in prosperous times and for making them available in times of need. The village organizations should also serve as a labour bureau and arrange for utilization of labour when facilities are not available for such labour in the agricultural industry. Hence village organizations should arrange for close study of labour problems connected with the village and evolve suitable schemes for utilization of such labour power advantageous alike to labour as well as to the community.

Universities and Politics.

The Young Men of India publishes the following address delivered at the Eighth Annual Meeting of the Indian Students' Union and Hostel, 112, Gower Street, London, by Sir Michael Sadler, Master of University College, Oxford:—

The subject which you have allowed me to take for this address is difficult—difficult and many-sided. While preparing what I am about to say for your consideration, I tried to keep in mind the different circumstances of Universities in various countries, both at the present time and in past times. The connection between Universities and political ideas or controversies is at this moment by no means alike all over the world; nor has it been the same in the case of the more ancient Universities, at all periods of their history. Therefore a comparison of the circumstances in which the main groups of Universities are now placed may throw some light on the question which we are about to consider. And it is also possible to get some guidance from looking at the matter in historical perspective. But our knowledge of the historical side of the question is still incomplete. For example, we know comparatively little about the earlier history of the ancient Universities of India, and what Dr. Cooke recently called "the awakening of our historical conscience" leads me to suspect that we may some time arrive at a clearer understanding than we now possess of the political atmosphere of the European Universities during the earlier and during the closing parts of the Middle Ages.

The attitude of Universities towards politics is necessarily affected by their administrative relation to Government. Some Universities, like those of Italy, France and Russia, are intimately dependent on the central administration of the State. Others are dependent on a State Government like those of the unified German Republic since the war or like the State Universities in the Federal Republic of the United States. All of these are, by the nature of their being and their financial dependence, necessarily sensitive to the tone of political feeling dominant in the State authority from which they draw an indispensable part of their support. At the other end of the scale are Universities which derive no part of their revenue from State subsidy and are wholly free from State influence in the planning of their courses of study and in the choice of their teachers. Such are Harvard and Yale, Princeton and Columbia in the United States, such was the Free University of Brussels in which the great geographer, Elisee Reclus, took a leading part and (if we accord to it the status of a University) such is the Shantiniketan founded by Dr. Rabindranath Tagore at Bolpur, in Bengal. Intermediate between these two opposite types are two others, both British; one of these intermediate categories is represented by Oxford and Cambridge, each mainly supported by endowments supplemented by fees, but now also subsidized by the Central Government and each subjected at intervals to investigation and remodelling by Commissions which Parliament appoints and clothes with statutory powers. The second intermediate type is represented by the modern English Universities which, though deriving about one-third of their income and most of their buildings from gifts, fees and endowments, are dependent for the remaining two-thirds of their income on grants from local authorities within their area and from subsidies voted by Parliament and assigned by a Committee appointed by the Chancellor of the Exchequer.

The more remote a University from control by the State, the less likely are its members to be restricted in the expression of their political views. But it is by no means the case that the State always encourages, still less is it true that it always requires, a University maintained by public money to give active support to the policy of the Government by voice or pen. A Government may bear the cost of maintaining the University, not in order to get a political advocate but because it regards learning and higher education as indispensable to national welfare and because national conditions in that particular case make it (or at some earlier time have made it) convenient or necessary to maintain the University directly from State funds. But no Government would take it kindly if a University, maintained from funds under the direct control of the Government, opposed the policy of the Government on any crucial question. And if the Government were struggling, or conceived itself to be struggling, against heavy attacks which threatened its existence, it would be more than human if it did not look to the University whose expenses it defrays to give to it moral and intellectual support. The classic example is the case of the German Universities during

the thirty years before the War. The Prussian Government was justly proud of the scientific eminence of the Universities which it maintained. In those parts of the field of learning and investigation which had no direct bearing on the political aims of the State, the Government gave (and felt great satisfaction in giving) complete intellectual freedom to the professors whom it had appointed. But on matters of moment in political science it welcomed professorial support: it looked coldly on professors whose political opinions it distrusted; and it took steps through the Department of Higher Education to prevent the appointment of candidates who were thought likely to be critics or opponents of its policy.

Universities which receive no money from Government and are free from Government control have in theory the greatest liberty of expression on political questions. But it does not follow that they make use of that liberty or that they have any wish to use it in opposing the Government. Harvard and Yale, Princeton and Columbia have not been political opponents of the Government of the United States. Nor does *independence from Government subsidy* or *from* administrative supervision by Government necessarily secure at all times a University from Government interference. In times of acute civil tension a Government by the law of its being is bound to defend itself against any enemies, intellectual enemies included, who challenge seriously its right to govern. But it has been found by experience, especially in France, that fussy interference with University teaching is not an effective weapon in the armoury of government. Governments in these days rarely take a University professor by the throat and say "pay me what thou owest". Forbearance has been found the best form of conduct. And this is to our general comfort and, on the whole, to the public good.

The present case of the Universities of the intermediate type in regard to controversial politics is especially interesting. The modern English Universities have risen swiftly to a position of intellectual influence. It is true that University College, London, King's College, London, and Owens' College, Manchester, have for more than three-quarters of a century been eminent in things of the mind. But I can remember when it seemed a profanation to think of a University at Birmingham. Mr. Chamberlain's courage showed itself in his determination to make his beloved city the seat of a modern University. When it was proposed that the Yorkshire College should apply to the Victoria University, a federal institution of which the earlier members were Owens' College, Manchester, and University College, Liverpool, there were many people in Leeds who thought that it would be insufferably presumptuous on their part to ask that the august word "University" should be attached to their town. But I find that in Oxford to-day the great modern Universities are profoundly respected and that all traces of their being treated like parvenus have been obliterated by the finger of time. Nevertheless, they are still young. There are people still living who remember Manchester before Owens' College was founded—many more who can remember the contemptuous rejection by the Government of the day of the proposal that Owens' College should receive a University Charter. Liverpool was still not a University when the Prince of Wales was born. Without being in any way precarious, the position of the modern Universities in England does call for tactful avoidance of local unpopularity: A penny rate is not easily got, but indiscretion might jeopardise it. There are still vestiges in English life of party prejudice. A retired public servant wrote angrily to us the other day because the committee of the Oxford Luncheon Club a representative but not a Political Society, had invited Mr. Pethick-Lawrence to tell it the hard and bitter truth about the Surtax. If, in a narrowly contested Parliamentary election in a local constituency some of the professors of a modern University developed striking powers of propaganda, a good many rate-payers would say that they weren't going to be taxed for that kind of thing. I can remember a sagacious Yorkshireman saying that nobody could prevent a member of the University staff from writing to the newspapers about anything he liked, but that if he wrote about controversial questions in politics or religion he ought to date his letters from his private house and not from the University. But I have said enough to show that there are reasons for circumspection on the part of those whose work lies in the modern English Universities.

With the two ancient English Universities which form the other group in the intermediate type, the case is different. No one suspects Cambridge of being unanimously Liberal, because Mr. J. M. Keynes is Chairman of the directors of *The Nation*. No one imagines that Oxford would poll a unanimous vote in support of the Conservative Government, because its two representatives in Parliament are Lord Hugh Cecil and Sir Charles Oman. It is not only that the two ancient Universities are big and therefore, being broad-bottomed, can carry a mixed crew, but that a truce of God has been called in the political conflict which used to rage in both of them. Oxford and Cambridge in their present form and temper are the outcome of the liberal movement of the last century. (I use the word "liberal movement" in its Continental and not in its narrower English party sense.) Stamped upon them is the impress of John Stuart Mill's belief in the value of discussion and of progress through the candid utterance of varied opinion. For this reason the ancient Universities are, at the present time, the protectors of professorial liberty in all English Universities in regard to controversial matters of politics.

If, therefore, any person were to say that all Universities should keep clear of politics, I would ask them whether they do not think that Oxford is strengthened by the presence of Professor Gilbert Murray, of the Master of Balliol, and of Mr. G. D. H. Cole. And whether in an earlier generation it was not good for Oxford to be the scene of the varied political activities of Professor A. V. Dicey, Arnold Toynbee and Henry Scott Holland. Whether it is not good for Columbia University to have such varied spokesmen on public affairs as Professor John Dewey and President Nicholas Murray Butler. Whether, finally, the brave voice and unfaltering courage of Sir Asutosh Mookerjee were not worth considerably more than a crore of rupees to the University of Calcutta.

The view which I would submit for your consideration is that all Universities should encourage an open-minded study of the fundamental principles of politics but should, as institutions, be allowed to keep themselves free from entanglements with momentarily raging political controversies. Further I would suggest that, if a University is strong enough to stand the battering waves of stupid misunderstanding, it should be generous in allowing individual members of its society to express, in speech and writing, their sincere convictions on controversial subjects, relying on their good sense, and on their sense of obligation to the corporate society of which they are members to restrain them from unworthy partisanship and from impropriety in self-expression. Thirdly, I would add

that even in great emergencies when strong conviction feels that silence would be cowardly, activity in political affairs should be kept strictly subordinate to the full discharge of the other duties which in a learned society devolve both upon the old and the young.

Upon the old and the young. These words remind us that every University consists of two parts—the senior and the younger generation.

Having spent the most part of a long life in three Universities, I am drawn by experience to say that in the academic world some of us who are old are apt to forget how old we are, and that some of those who are young do not always realize how young. Nearly fifty years ago, when I was head of the School House at Rugby, I felt the weight of my responsibility as seriously as if I were Viceroy of India; when I pored over Mr. Gladstone's Midlothian speeches, spread out on one of the old brown oak tables in the School House Hall, I had less misgiving about right and wrong in British Foreign Policy than I have since been troubled with. Once when I was an undergraduate at Trinity, Professor Robinson Ellis, a Latin scholar whose fame stood high in every University of the world, took me for a walk round the University Parks. Naively, but with conviction, I told him that those of us who went to the Union thought that Curzon would some day be Foreign Secretary and that E. T. Cook knew more about the tangle of English Local Government than any man except Goschen himself. Robinson Ellis sighed, and said "Sadler, I take little account of *under*-graduate reputations."

In words not devoid of irony, John Henry Newman said that "A University is a place to fit men of the world for the world." But he was not ironical when he wrote that "The practical end of a University course is training good members for society." Many a young man has tried his wings in politics during his undergraduate days: a few while still at College have impressed experienced statesmen by their promise as Parliamentary or platform speakers and by their good judgment in dealing with political topics: far more, through political discussions at the University, have first come to close grips with the reality of public affairs. "Man," says Aristotle, in a famous passage in the first book of the *Politics*, "is by nature a political animal." No University is vigorous unless the active minds of its young and older members are thinking about fundamental things—God, Freedom, and Duty to one's neighbour. To muffle conviction about these things stunts the mind. One's courage shrinks if one shirks fundamental issues.

I have quoted Aristotle in support of my argument but some of my hearers may feel that I have no right to call in aid the words of one who, if I understand him aright, was a thorough-going advocate of putting all education, including what we now call University education, under State control.

But you will remember that Hellas intellectually was a congeries of relatively small States and that Aristotle had in view the circumstances of a city state. He is careful to point out how different in scope, method and tendency were the educational systems of the constituent state-members of the mental and, one might almost say, cultural confederacy of the Greek-speaking world. Viewing Hellas as a whole, therefore, we may justly say that in effect it had (as we moderns have) a variety of University disciplines, compensating one another's defects by their several merits, just as in pre-war Germany the University of Marburg had a tone and outlook different from those of the University of Berlin, and just as London, Cambridge and Oxford differ from one another, though all are organs of English higher education. What Aristotle would recommend is that each University should have a specific tone and a thought-out purpose, governing not only its courses of study but the presuppositions of its educational life. Yet he takes it for granted that, in its institutions for the training of the young, Hellas as a whole will have diversity of type, and that each great unit in the consortium will, as in the modern world, be adjusted to the needs of the community which it was designed to serve.

Maladjustment to the needs of their time and country is hurtful to the well-being of Universities and, in some cases, has been the cause of fatal decline. One is apt to think of Universities as immune from death. But history shows that rate of mortality is rather high. Of the Universities founded in Europe during the last eight centuries, nearly one-third, I think, have perished. Except in periods of unusual quietude or in the torpor of decay Universities are not, as we sometimes think them to be, haunts of ancient peace. If we look back upon their history we see them tossed at their moorings by great waves of controversy in religion or in politics, and the storms have been worst when religion and politics have been in explosive combination. In our time indeed, most Universities are remote from political or religious controversy. Their chief intellectual activity now lies in the domains of the comparative investigation of custom and belief, and in the physical and biological sciences. But what lies ahead? Before our eyes, applied science is causing economic change. Economic problems loom larger in politics. But they touch at many sensitive points in the lives of men. They involve ethical questions, questions of responsibility in employment, new contacts between races, our assessment of the value of what we may enjoy in life. There are signs that these questions may touch the quiet of Universities. By the law of their being, Universities have one foot in the past and one foot in the future. Within their walls meet minds which are mature and minds which are promising and eager but still immature. To blend these two is to help in stabilizing society. But at times of rapid change in social or intellectual outlook, courses of academic training are in danger of getting out of date. Old ways of thought may become obsolete, not by reason of inherent defects but through subtle changes in the mental appetite of the young. At these times, conservatism which is rightly cautious may be over-tenacious of tradition. Into this mistake fell the English Universities at the Renaissance, the University of Paris in the time of Descartes, some of the German Universities after the Thirty Years' War. Again, it is a perilous time when a new culture and the power of large-scale industry impinge upon the venerable studies of an antique civilization. And whenever the spirit of Nationalism has gripped the imagination of the most eager-minded part of the community, Universities, because one of their functions is to stabilize society, are wise, I think, in not withholding sympathy with what is fair and feasible in national aspirations.

To sum up: Politics play so great a part in life that places of education which prepare young men and women for life cannot be isolated from politics. Every University has always been the scene of political discussion. The hardest questions of belief and duty both in religion and in politics cannot be evaded by old or young in any centre of sound learning. Political philosophy and its applications have been inseparable from University training from the days of Isocrates, Plato and Aristotle to those of Treitschke, Henry Sidgwick and Woodrow Wilson. To think and

talk about politics during undergraduate days has, for centuries, been part of the training of those destined to lead in the public affairs of the country.

But the first duty of a University and of all those who work in it is to get at the truth. To hear both sides, to be candid and fair-minded, to shun (except in debate) the spirit of party, are primary obligations on those who teach and learn it. But if the conditions of life in a country are unhealthy, political talk may become feverish and unbalanced. In such circumstances, University teachers and students are under especial obligation to set an example of steadiness in judgment and, if after patient thought conscience constrains them, of courage in standing up for what at the moment may be the unpopular side.

Books in Brief.
Short Reviews of Recent Books.

Standard of Living of the Working Classes in Ahmedabad.

The Labour Office, Bombay, conducted an enquiry into family budgets of the working classes in Ahmedabad in 1926. A report* based on the results of the enquiry has now been published together with photographs, charts and statistical tables.

The enquiry was conducted through the Lady Investigators of the Labour Office who filled in the schedule specially drawn up for the purpose. Three in every hundred families in Ahmedabad were visited and in all 985 family budgets were collected out of which 872 were accepted for final tabulation.

An analysis of the families according to income classes shows that the majority of them or 80.85 per cent of the total have an income of between Rs. 20 and Rs. 60 per month. The income class in which the largest number of families is to be found is Rs. 40 and below Rs. 50.

Of the families considered, 78.67 per cent were Hindu, 20.18 per cent Muhammadan and 1.15 per cent Christian. Nearly 80 per cent of the families come from the city itself or the surrounding districts of Gujerat, while nearly 11 per cent come from Rajputana and only 4 per cent from the Deccan and Konkan.

THE FAMILY.

The average number of persons per family in Ahmedabad is 4.00, 3.87 of whom live in the family and 0.13 away from the family. Of the 3.87 persons living in the family 1.36 are adult males, 1.21 adult females and 1.30 children under 14 years of age. It is noticeable that the average number of persons living in the Ahmedabad family is appreciably lower than at Sholapur and Bombay where it is 4.57 and 4.2 respectively.

WORKERS AND DEPENDANTS IN THE FAMILY.

Of the 3.87 persons in the family 1.66 are earners and 2.21 dependants. Of the earners 1.25 are men, 0.37 women and 0.04 children. Comparing the number of earners and dependants per 100 working class families in Bombay, Ahmedabad and Sholapur, the figures for earners are, for Bombay City 154, Ahmedabad 166 and Sholapur 196. As regards the number of wage-earners in families, it is seen that in nearly half the number of cases there was only one wage-earner and in nearly 40 per cent of the families there were two. The highest number of earners recorded in one family was 5.

CONSTITUTION OF THE FAMILY.

As in the case of the Sholapur enquiry information was collected regarding relationship of the various members of the family to its head with a view to ascertaining the prevailing type of the family and to determine, if possible, the relation between income and the type of the family. As, however, all the budgets collected did not furnish the necessary data, only 812 could be utilized for the purpose of this analysis. It is seen from the tabulation of these budgets that 64 per cent of the families were natural and 36 per cent were joint. In the case of the Sholapur cotton mill workers the corresponding percentages were 44 and 56 respectively.

COMPOSITION OF FAMILIES.

The data collected in the course of the enquiry regarding the composition of families show that among natural families 35 per cent contain only the husband and the wife, 21 per cent contain a child under 14 in addition and 15 per cent contain two children under 14 years of age. A comparison with the Sholapur family budget investigation shows that there only 24 per cent of the natural families contain husband and wife only. As regards joint households, the composition differs greatly and it is difficult to single out any prevailing type of composition.

AGE DISTRIBUTION.

An attempt was made during the course of the enquiry to ascertain the ages of the earners in families. Of the 1,394 wage-earners for whom data could be collected, 1,108 were males and 286 females. It is seen that the bulk or 85 per cent of the males are above 15 and below 45, while the bulk or 86 per cent of the women workers are above 15 and below 40.

WORKERS AND THEIR MONTHLY EARNINGS.

In the 872 families considered there were 1,443 workers, 1,090 of whom were men, 320 women and 33 children. It is seen that though in many cases the monthly earnings of individual workers are as low as less than Rs. 6, in the majority or 61 per cent of the cases the earnings vary from Rs. 15 to Rs. 33 per month. No woman wage-earner gets more than Rs. 33 per month, and no child worker gets Rs. 15 per month.

The monthly earnings of cotton mill workers were separately tabulated. Out of the total of 1,443 wage-earners 1,049 were employed in cotton mills. The results of this separate tabulation show that of the 1,049 workers, 814 or 77.60 per cent were men, 217 or 20.69 per cent were women and 18 or 1.71 per cent were children. The earnings of cotton mill workers

*Copies of the Report can be obtained from the Superintendent, Government Printing and Stationery, or from the Labour Office, Secretariat, Bombay, price As. 4 or 5d.

...ear to be higher than of other workers in Ahmeda... They are also higher than those of the Sholapur ...ton mill workers.

INCOME OF THE FAMILY.

The income of the family is made up not only of the ...gular monthly earnings of the workers in the family ...t it also includes income from certain supplementary ...urces. Roughly speaking, the Ahmedabad working ...ss family has a monthly income of about Rs. 44-8-0.

EXPENDITURE OF THE FAMILY.

The following table shows the percentage distribu...tion of expenditure on the various groups of articles ...cluded in the family budget :—

Food	57.90
Fuel and lighting	7.04
Clothing	9.45
Bedding and household necessaries	1.16
House-rent	11.74
Miscellaneous	12.71

It is of interest to compare the percentage distribu...tion of the expenditure of the working class in Ahmedabad with a similar class of persons in Bombay and Sholapur. The following table gives the com...parison :—

	Bombay working class budgets (1921-22)	Sholapur cotton mill workers' budgets (1925)	Ahmedabad working class budgets (1926)
Food	56.32	52.76	57.90
Fuel and lighting ..	7.29	10.28	7.04
Clothing	8.40	12.70	9.45
Bedding and household necessaries ..	2.26	1.08	1.16
House-rent ..	7.67	6.72	11.74
Miscellaneous ..	18.06	16.46	12.71
TOTAL ..	100.00	100.00	100.00

More than half the expenditure of the family is on food. It is difficult to say what is the staple food of working class families in Ahmedabad, becauseit appears that there both wheat and rice have equal importance from the point of view of the consumption of the family. It is of interest to observe here that the Labour Office is informed that the Hindu working class families in Ahmedabad change their staple according to the seasons. Bajri is generally used during the monsoon and wheat during summer.

HOUSING.

As in Bombay City so also in Ahmedabad, the bulk (97 per cent in the case of Bombay and 73 per cent in the case of Ahmedabad) of the working class families live in one-room tenements. In the majority of cases the number of occupants per tenement is 2, 3 or 4. Cases of overcrowding are, however, not rare. The monthly rent paid by the majority of the families varies from Rs. 3 to Rs. 6. The average rent paid by a family comes to Rs. 4-9-11. The average floor space available for each person in the family is 47.36 square feet.

GENERAL OBSERVATIONS.

The Ahmedabad worker is heavily indebted. The amount of debt varies from a few rupees to many times the monthly income. The money is borrowed at heavy rates of interest which in the majority of cases vary from 12 to 24 per cent. But higher rates of interest are not uncommon, and in fact in one case the rate of interest reported was as high as 225 per cent.

Conditions of Work and Life of Journalists.

This Report which has just been published is the result of a request to the International Labour Office by the International Association of Journalists accredited to the League of Nations. Information is included from organizations of journalists in thirty-three countries. (Geneva, 1928. 8vo. 220 pages. Price 4s., or $1.00. Post free.)

The Report draws attention to the need of such a study of the conditions of journalists in view of the fact that this profession has found itself face to face with two urgent difficulties, the first arising from the increase in the amalgamation of proprietorship of newspapers, the second from the economic upheaval of the post-war period.

The Report successively passes in review the general aspect of the profession, its competition, its organization, the status proper of the journalist and his conditions of work, the state of the labour market, and the insurance institutions established for journalists. All available details on these questions are given for each country.

International Year-Book of Agricultural Statistics, 1927-28.

The International Institute of Agriculture at Rome has recently published its *International Year-Book of Agricultural Statistics*, 1927-28. This Statistical Yearbook has from the first been a special feature among the publications of the Institute, the first volume being issued in 1910 and others following in regular succession despite the special difficulties of the war periods. The present Year-Book is actually the seventeenth of the series and as usual it contains a mass of agricultural data and material such as by the nature of the case are not to be found in any other publication of similar character.

An idea of its comprehensive nature may be gained by a glance at the subjects of the nine chapters into which this stout volume of nearly 600 pages is divided. These are as follows : (*a*) Territorial area and population as in 1913 and in 1927 for 220 countries ; (*b*) Apportionment of areas, agricultural production and numbers of live-stock in 1926 and 1927 for 47 countries; (*c*) Area, production and yield per hectare for 35 agricultural products for all countries (averages for 1909-1913 and 1924-1927 respectively) ; (*d*) Numbers of the nine principal species of live-stock for various countries ; (*e*) Data of imports and exports relating to 40 vegetable and 5 animal products for various countries ; (*f*) Prices for all the chief agricultural products ; (*g*) Ocean freight rates for cereals and cotton ; (*h*) Production, trade and consumption of chemical fertilizers ; (*i*) Rates of exchange.

The statistical tables are elucidated and explained in an introductory chapter and the work as a whole will be found to be not only of great practical interest to persons directly occupied in agriculture, trade and finance, but also of very real assistance to all students of world economic problems as they present themselves to-day.

Breakdown of Socialism.

By Arthur Shadwell, B.A., M.D., LL.D., etc Ernest Benn, Ltd., Fleet Street, London, pp. 272. Price 10s. 6d. 8″×6″. 1926.

The title of the book would no doubt intrigue some. Dr. Shadwell explains in his Introduction that he has used it deliberately. He enlightens us that by "Breakdown" he means that 'when anything breaks down it does not necessarily come to an end; it comes to a temporary stop which may go on when some adjustments

have been made'. That is how he pictures the European Socialism of to-day. The author is clearly of opinion that socialism as obtaining in Europe has definitely failed. He predicts that further progress would be stultified unless radical alterations and adjustments are made in the socialistic body politic. Illustrative of these conclusions arrived at, he has recorded down what he has observed by his personal study tour made through Russia, Germany, Austria, Sweden, etc. This book by the learned author is bound to remain a guide to students, exponents and opponents of socialism as the views of a detached writer who has imposed impartiality on himself in the interests of a proper study of nascent socialism of to-day. We recommend a study of this book for a proper grasp of socialism that is practised, which is essential to all people who like to be known as well informed.

The New Civilization.

By Dr. Annie Besant, Theosophical Publishing House, Madras.

Dr. Besant is ever a perennial spring of lofty thoughts. Her four Queen's Hall lectures delivered a year and a half ago, now available in book form, are some of the latest manifestations of her boundless energy. In these lectures she discusses the waning of the present-day civilization and its contributory causes. Religion, education and economics of a new civilization that is to come or desired as idealistic, form the basis of her lectures that must set many people to think. These lectures must re-echo in such places where they may be intelligently understood. The printing and get-up are as usual up to the traditions of the Theosophical Publishing House.

The Sweden Year-Book, 1928.

The Ministry of Foreign Affairs, Stockholm, pp. 283.

The above Year-Book issued by the Swedish Government is replete with plenty of general information about the upper half of the Scandinavian Peninsula. We have reliable facts pertaining to Governance, Constitution, Education, Industries, The Nobel Foundation, Co-operation, etc. The photographs of Swedish Royalty, illustrations, maps and charts enhance greatly the general character of the publication as a trustworthy guide for those who wish to know a little of real Sweden of to-day. For quick reference, there is quite a reliable index. The printing is exceptionally good and the book is got up in lovely fashion.

Problems of Indian States.

By G. R. Abhyankar, B.A., LL.B., Professor, Law College, Poona. Aryabhushan Press, Poona, pp. 497. Price Rs. 5. 1928.

Prof. Abhyankar's able articles contributed to the press at various times on the subject of Indian States form the above-named book under review. It includes many progressive and clearly written discussions on the Princes' Protection Act, The Question of Berars, Montford Report and the Indian States, Chamber of Princes, Relations with the Government of India, etc. Since the appointment of the Butler Committee, the problem of Indian States has been very much in the limelight in India and England. Owing to the number of States, their relative positions and old treaties, a clear definition of the statement of policy on the Indian States would appear to be more difficult of satisfactory solution than British India.

Writers of the type of Prof. Abhyankar by their lucid analysis of the many pressing questions pertaining to Indian States must help at least to minimize the difficulty of arriving at a satisfactory constitution acceptable to the majority. The newspaper articles that form the basis of this book are certainly not of any ephemeral interest. Those who have in mind a serious desire to study the many problems connected with Indian States may, with profit, invest a few rupees on a copy of this book.

Prophet Muhammad.

By Yakub Hassan and Ahmad Shafi. Messrs. G. A. Natesan & Co., Madras. Price As. 12. Pp. 133.

Even to-day many have found it difficult to find a concise sketch of the life of Prophet Muhammad that is both easily accessible and authoritative. This low priced booklet that has been issued by the well-known firm of topical publishers, Messrs. G. A. Natesan & Co., fairly fulfils that want. It embraces both a readable life of the great Prophet and his teachings. The inclusion of a number of picked sayings of Muhammad and a selection from the holy *Quran* help in educating the inquisitive reader fully about Islam. We applaud the thoughtfulness of the authors in dedicating this book to the Hindus for whom it is, we believe, mainly intended.

Health Publications.

There are thirteen booklets in the "Health Lecture Series" published by the Hon. Dr. U. Rama Rao of Madras which offer valuable guidance on health, hygiene and nursing. The broad basis of these booklets is to educate the man in the street on the importance of possessing radiant health and the natural way of keeping diseases at bay. A repetition of the heading would convey the matter contained in this series. They are: Houses in relation to health; Health and Disease; Air in relation to health; Water in relation to health; Food in relation to health, Home Nursing; Personal Hygiene; Alcohol and its dangers; Milk in relation to health; Disease-carrying insects; Preventable Diseases and School Hygiene. The defects of these booklets are, if we may point out, they are not of a handy size and too numerous having in mind the allied nature of their various contents. So we would suggest their being resolved into a single volume. These healthy booklets on the subject of health must be found in as many homes as possible.

Acknowledgments.

1. *A Preliminary Note on the Rice Crop in the United Provinces.* By R. Z. Sethi, M.Sc. As. 7.
2. *A Milk Fermenting Yeast.* By C. S. Rama Iyer, B.A. As. 5.
3. *Investigation in the Bacteriology of the Silage,* 1926-27. By T. H. Walton, M.A., M.Sc. As. 5.
4. *Stem-rot of Berseem caused by Rhizoctonia Solari Kuhn.* By Md. Taslim. As. 8.
5. *A Leaf Spot and Blight Disease of Onions caused by Alternaria Palandui nov. sp.* By C. Rangaswami Ayyangar. As. 6.
6. *A Study of the Locular Composition in Cambodia Cotton.* By V. Ramanatha Iyer, L.Ag. As. 7.

All the above from Government of India, Central Publications Branch, Calcutta.

7. *The Manufacture of Shellac.* By Dr. R. L. Datta, D.Sc. Bengal Secretariat Book Depot, Calcutta. As. 14.
8. *East Indian Cotton*—A Review of the Season 1927-28. Issued by Chunilal Mehta & Co., 5A, Marwari Bazar, Bombay.

The Mysore Economic Journal

A Monthly Periodical devoted to the Discussion
of all Economic Topics of Interest

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The Hand-Loom: Its Place in the Country's Industries.

By B. T. Kale,

Assistant Director of Industries, Baroda.

"India is and will always remain a country of cottage industries, where hundreds of thousands can work in mills and factories, millions and tens of millions work in their hut and the idea of greatly improving the condition of the labourers in India merely by adding to mills and factories may appear possible to those who form their opinions six thousand miles away. Any comprehensive plan of improving the condition of our industrial classes must seek to help the dwellers in cottages first."—H. H. MAHARAJA SAYAJI RAO GAIKWAD (*Industrial Conference*, 1907).

With an overwhelmingly large rural population the main economic problem of the Nation is now increasingly felt to centre round our villages and their people. Greater attention is now, therefore, being paid to rural economics. The pronouncement of the recent Royal Commission on Agriculture has unequivocally impressed on the intelligentia the need for an economic rural reconstruction in the first place.

"Agriculture gives occupation, directly and indirectly, to the vast majority of the population of India.

* * * * *

The industries of India are to a very great extent based on its agriculture, which is itself the chief of them. Especially closely related to agriculture are industries carrying out the primary processing of the agricultural products of the rural districts, or, like sericulture, practised in villages by the cultivator and his family, or, again, those which form part of the day-to-day economy of the village, for example, the work of the village artisan, the blacksmith, the carpenter and the potter." (See pages 5 and 564 of the Agricultural Commission's Report.)

The low purchasing power of the population must be remedied if the country as a whole is to march forward. Agricultural research institutes, experimental farms, exhibitions, demonstrations, all are trying in their respective spheres to increase the return from land on which principally the purchasing power of our population depends. A co-ordinated effort in stimulating the use of the hand-loom and the spinning wheel as a part-time occupation is also evident everywhere. All the provincial departments of Commerce and Industries are giving this propaganda their best attention.

It would be interesting and useful, therefore, to examine the scope the hand-loom weaving industry has for development and to see whether it can be reckoned as an important industry in the country worthy of the attention it is receiving.

Without entering into the discussion about the geographical division of labour among the nations of the world which suggests that India must be satisfied with agriculture alone as its industry, as being suited to its peculiar genius, and climatic and other conditions, we may accept the view enunciated by earlier Indian Economists like Ranade and others that India has always had a splendid combination of agriculture and manufactures and that its wealth was the result of a profitable exchange of commodities with the outer world. It must, however, be remembered that the country is now ruralized to such an extent that industrial talent and natural

and acquired aptitude for it have nearly been lost. A slight indication of a contrary tendency is afforded in the growth and expansion of towns and trade centres. It will certainly take a comparatively long time for the present entire (at least to a very large extent) dependence on agriculture to come down to be in line with some of the large industrialized countries like the United States of America. During this transition period it would be prejudicial to national interests to follow the *laissez-faire* policy about the economic conditions of the rural population. It is a patent fact that the conditions essential for the successful organization of agriculture as an industry are conspicuously wanting in the case of a large section of that community. The supply of the main factors of production is very inadequate. Prof. V. G. Kale observes in his *Indian Economics* (Vol. I, page 208): "Such is its tragedy that instead of being a full-timed remunerative occupation, agriculture has tended to become to the cultivator a subsidiary industry. This is a fact which deserves to be carefully noted in view of the laudable effort that is being made to help the cultivator to earn a living by combining spinning and weaving with his agricultural pursuits."

It is popularly believed that the hand-loom industry is decaying. It would be interesting in this respect to refer to Dr. H. Sinha's article in the *Capital* of the 8th March 1928. Some of the figures given below are taken from this article. Total consumption of cotton piece-goods in 1926—27 amounted to 5086 million yards of which 1315 million yards were contributed by the hand-loom and 2043 million yards by the Indian mills. In 1896—97 the earliest year for which statistics are available, 784 million yards were supplied by the hand-loom and only 247 million yards by the Indian mills. The share of the Indian mills began to grow larger in volume year after year and it now has surpassed the imports of foreign cloth. It is significant in this connection that the increased volume of Indian mill cloth has not ousted the hand-loom cloth. The Indian mill cloth is substituting the foreign imported cloth which has come down from 1932 million yards in 1896—97 to 1728 million yards in 1926—27. With the recent urbanizing tendency cloth consumption has increased. It was only 2963 million yards in 1896—97 while it was 5086 in 1926—27. It is worth while noting how this increased demand is met and in what measure the hand-loom contributes to it. Although the total consumption has increased by 2123 million yards this increase has not been steady. In 1913—14 the year immediately preceding the War, the consumption had reached as high as 5144 million yards while in 1919—20 the year immediately following the cessation of the world-war, it had gone down to 2901 million yards. This figure is lower than even the 1896—97 figure. The year 1918—19 was an year of comparative scarcity and it is but natural that this scarcity should be reflected in the consumption of the only luxury available to the masses of the people. With an average annual income varying between Rs. 50 and 60 per head of the population it is no wonder that clothings are considered a luxury. The income can hardly find the requisite food. Another reason for this sharp decline in 1919—20 may be found in the devitalizing effects of the influenza epidemic which ravaged the length and breadth of the country in 1918. But this sharpness is not so markedly visible in the figure of the hand-loom cloth. It came down to 564 million yards only from 784 in 1896—97. Excluding the years 1900—01, 1918—19, and 1919—20 piece-goods consumption in the country has shown a steady increase. It can indicate only one thing that with normal rainfall and good crops the tendency set in motion will increase with an accelerated speed in this matter of cloth consumption. The increase may not respond to an arithmetical percentage. But, for practical purposes of estimating a probable increase it would not be incorrect to find a percentage of increase over the 1896—97 figure and then to distribute it over the whole period. This method is rather empiric but it may serve to base our rough estimate of the probable demand. The aggregate increase comes to about 71 per cent and distributing it over the whole period of the 30 years, it comes to about 2.5 per cent per annum. The increase in the hand-loom contribution calculated in the same way comes to about 70 per cent for the whole period. This percentage proves beyond doubt that the hand-loom industry is not losing ground in the general scramble to capture the Indian cloth market. It is true, however, that the increase in the Indian mill cloth supply is out of all proportion as compared to the 1896—97 figure. It must at the same time be remembered that the expansion of the Indian mills is not now showing the same rapidity it exhibited in the beginning. The partition of Bengal and the consequent boycott movement in the country tended to afford the required fillip to the Indian cotton mill

industry. Then the declaration of the world-war in 1914 and its continuance for a period of over 4 years further accelerated this development. The expansion of the cotton mill industry in the country is certainly not keeping pace now with the growing demand. Then again certain factors limiting its growth have already begun to operate. This industry does not seem so readily to thrive in new localities, it at least clearly exhibits exotic tendencies. With the reduced imports of foreign cloth during the war, cotton mills were started in a number of new localities in several parts of the country but very few of them have survived the strain of the industrial depression - the after-math of the world-war. Immobility of trained labour has also contributed to some extent to this rather unfortunate result. The money market also of late years does not look propitious for the floatation of new enterprises. The official manipulation of the exchange rate also adversely affected the mill industry by stimulating imports. The most important reason which has already begun to be felt is the economic law of diminishing returns. There are indications of this, though vague at present, in the annual figures of production and general expansion of some of these mills. (*Vide* Mr. M. D. Altekar's article on "Indian Cotton Mill Industry" in the *Indian Textile Journal* for November 1928.) Those of them that were early in the field and utilized the splendid opportunities of the Swadeshi movement and the world-war in expanding their activities and also consolidating their positions did not suffer much but the rest were shaken to their foundations in the 1919 crisis. The following figures given in the statistical abstract (1916—17 to 1925—26), page 620, lend countenance to the above observation :—

Year.	Cloth manufactured in cotton mills. (000 omitted). lbs.
1916—17	354,808
1917—18	359,178
1918—19	325,786
1919—20	355,681
1920—21	339,334
1921—22	374,219
1922—23	372,280
1923—24	365,008
1924—25	413,768
1925—26	416,783

During this decade the increase in its output was only of 91,003 thousand pounds which works out to only about 2.8 per cent per year, *i.e.* nearly equal to the increase in the total consumption of cloth in the country. Let us compare with this the percentage of its expansion during the decade 1896—97 to 1905—06.

Year.	Production of mill goods in million yards.
1896—97	354
1897—98	389
1898—99	436
1899—00	419
1900—01	422
1901—02	511
1902—03	524
1903—04	589
1904—05	678
1905—06	700

Cloth production in Indian mills increased from 354 in 1896—97 to 700 million yards in 1905—06. It nearly doubled itself. Distributing it over the decade it comes to a ten per cent average increase per year while the rate of increase during the 1916—17 to 1925—26 decade is only 2.8 per cent per year. Now let us compare with this the corresponding rates of increase in hand-loom production.

Year.	Hand-loom production in million yards.
1896—97	784
1897—98	924
1898—99	918
1899—00	884
1900—01	692
1901—02	880
1902—03	960
1903—04	872
1904—05	828
1905—06	1084

This increase works out to about 38% for the decade or 3.8% per annum.

Now let us consider the figures of the 1917—18 to 1926—27 decade :—

Year.	Production in million yards.
1917—18	812
1918—19	1048
1919—20	564
1920—21	1148
1921—22	1190
1922—23	1341
1923—24	1005
1924—25	1256
1925—26	1156
1926—27	1315

The increase for this period works out to about 62% and distributing it evenly over the whole period it comes to 6.2% per year.

In the case of the Indian mill cloth, as we have seen, the percentage of increase for the former period is higher than that for the latter period; while in the case of the hand-loom the process of expansion still shows an upward movement. Let me repeat what has been observed before that in judging of this annual increase of production or rather contribution to the country's consumption this expansion is actually not so evenly distributed as we have arithmetically deduced. There are crests and troughs as can be seen from the figures. But the figures taken as a whole lead an observer to this significant fact that the handloom industry at least has not reached that stage where the law of diminishing returns would operate. The percentages on the contrary prove that there is still scope for development.

The total population of the country according to 1921 census was 31.89 crores as against 31.51 crores in 1911. This represents an increase of 1.2 per cent only. The real increase during the period from 1872 the year of the first census and 1921, excluding the increase due to extension of areas and improved accuracy of enumeration, comes to 20.1 per cent. The influenza of 1918—19 is responsible for the very low percentage of increase in the 1911—21 period. This epidemic took a toll of as many as one and a quarter crore of human lives. Birth rates in the various provinces vary slightly. But the devitalizing effects of the epidemic of 1918—19 are reflected even in the birth rate of the 1911—21 decade. The average normal birth rate may, however, be taken at 39 per 1000 and death rate at 30, the rate of increase of population comes to 9 per 1000. Although it is rather out of place here it may be mentioned that a similar rate of increase is observable in many European countries. But the point to be remembered is that in these European countries the birth and death rates are much lower than in this country. Physical, economic and social conditions have all combined to raise these rates in this country, while there, better sanitation and public health help to keep it at a lower rate. "The waste and misery involved in the high rates of birth and death in India provide food for serious thought" says Prof Kale. The conditions in this country obtaining in this matter of public health and sanitation adequately correspond with those obtaining in England up-til the end of the 18th century. Dr. Cunningham writing about the problems of London life of those times in his "History of the Growth of English Industry and Commerce" observes: "There can be no doubt that the whole city was in a most unhealthy state, the water supply was poisonous in the extreme, the houses were over-crowded and there were frequent encroachments on the remaining open spaces. There were also many elements of risk owing to the manner in which houses were built especially from the number of wood buildings; and most of the proclamations and acts which deal with the subject and limit or regulate the building in London and its suburbs, were concerned with the question in its sanitary aspects." Further Dr. Cunningham graphically describes the conditions: 'Similar reasons were alleged in subsequent proclamations though under James some stress was laid on the unsightliness of the noisome pestes of bulkes, stale sheds, cants, jutties wherewith our streets are in all places so much cumbered and amazed that it taketh away the benefit of air, sweetness and decency of the same." This extract is given here with a view to inspire hope in the pessimists amongst us, that if London could be converted into one of the healthiest cities of the world, taken similar stringent measures, the outlook in our country may soon improve. This is however beside the point here.

The increase in population during the 1901—11 decade was 7.1 per cent while, as observed above, the increase in 1911—21 period was only 1.2 per cent. This low rate of increase we have seen, is due mainly to the 1918—19 influenza. The net increase during the last 5 census periods (49 years) we have seen is 20.1 per cent. The average increase per decade may roughly be taken to be 4 per cent. Striking the average of the last two decades we get an approximately similar figure. The population in the country in 1941 at this rate may be somewhere about 34.44 crores. According to the figure of cloth consumption for 1916—27 the per capita consumption comes to about 16 yards. Assuming that the rate of increase in cloth consumption stated above remains unchanged although the tendency as observed is towards a progressive increase, the per head cloth consumption in 1941 will be about 24 yards. Total cloth consumption in that year may therefore come to about (34.44 x 24) crores yards *i.e.*, 8265 million yards. The country's mills and hand-looms will have to provide an extra 3200 million yards beyond their present contributions or other countries like Japan will step in. It is very important in this connection to note that imports of Japanese cotton goods increased from Rs. 45,632 thousand in 1916—17 to Rs. 1,24,839 thousand in

25—26. Again assuming that the present proportion of supplies by the three agencies, *viz.*, the Indian Cotton mill, the hand-loom and the foreign imports, remains constant till 1941, the hand-looms alone will have to expand so as to be able to manufacture 2375 million yards. But we have seen that the rate of increase in the hand-loom production has risen to 6.2 in the last decade from 3.8 in the 1896—97 to 1905—06 decade. This industry will, therefore, have to expand sufficiently rapidly to be able to cope with the increasing demand. Although figures of piece-goods imports during the 1916—17 to 1925—26 decade show a decrease, figures of other cotton goods imports show a very large increase in most cases.

COTTON		1916—17	1925—26
1. Piece-goods	yards..	1,939,133,425	1,823,239,950
2. ,, ,, of cotton and artificial silk	yards	3,289,341	17,020.392
3. Rope thread &c.	lbs.	5,278,960	3,958,940
4. Handkerchiefs & shawls	No.	8,385,687	8,711,667
5 Blankets	lbs.	1,703,621	5,138.786

These figures signify that foreign manufacturers study the changes in our fashions and at once begin to cater to us for our increasing wants in new lines. This is very well borne out by the increase in the value of imports of apparel in 1925—26 over that in 1916—17.

	1916—17	1925—26
Apparel	Rs. 15,792 thousand	Rs. 16,561 thousand.

This industry, therefore, to be better able to meet the increasing demand, requires to be better organized so that the changes in popular tastes and fashions, instead of handicapping the industry, may supply the needed fillip to it since we know it for a fact that the designs, finish and the durability of the products of these hand-looms are admirable. Improvement as to variety and efficiency of supply, however, are beyond the capacity and resources of the hand-loom proprietor weaver as organized at present. Nearly analogous conditions prevailed in England before the advent of the steam-engine. "The opening of distant markets for English manufactures did not always bring about an increased production, but it necessarily affected the character of the industrial system. There was greater scope for supervision by masters and employment in the textile trades was apt to pass from small independent manufacturers to wage-earners." Elsewhere Dr. Cunningham further observes: "In the old days of gild regulation or of the activity of aulnagers and searchers and under the system of well-ordered trade there had been little room for the personal skill and judgment of an employer. But in the eighteenth century there was full scope for the exercise of these business qualities and industry could not flourish or expand unless they were brought into play." The reconstruction of industry in England on modern lines took a long time. It was effected gradually and quietly. "The change from one type of organization to another does not necessarily involve any revolution that is apparent to the eye." For a time the wage-earner who is employed by a capitalist may pursue his occupation like the Bombay mill-hand who during the monsoon is seen migrating to his native village to attend to his agriculture. "The distinguishing feature of the capitalist as contrasted with the domestic system lies in the fact, that under the former scheme, employers or undertakers own the materials and pay the wages, whereas in the domestic system the workman is his own master; he owns the materials on which he works, and sells the product of his labour. But there need be no external mark that calls attention to an alteration in the economic status of the craftsman, indeed the same weaver might work for some weeks for an employer and at other times on his own account. On this account it is exceedingly difficult to follow out the course of the change. We can occasionally get definite and precise information on the point, but on the whole we are only able to infer the progress of capitalism from incidental occurrences. The nature of the difficulties and disputes which arise in a trade may serve to show whether the labourers were wage-earners or not." It would now be interesting to see on what lines industry is developing in this country. Excepting a few cities and towns like Bombay, Calcutta, Ahmedabad, Cawnpore, etc., industry on modern capitalistic lines is not much in evidence. The forms of organization are either the cottage or the home type. The workers own their implements and their raw materials and market their products. In some cases like the weavers at Uunjha near Sidhpur the workers own their own implements, but the raw materials are supplied by some merchant capitalist of a neighbouring town like Ahmedabad who pays the workers so much a piece of a standard length and quality. We thus see the capitalistic system slowly encroaching on the old cottage type. "This industrial evolution may be marked in the economic history of every community and

India is no exception to the general rule. The 'Capitalist' or factory system has not, however, entirely superseded the domestic or craft system even in Western countries and this phenomenon is more remarkable in India than elsewhere. *Here large industries* and large farming are exceptions and the *industrial organization of the old type still* persists despite the encroachments of modern methods of production and transport providing employment for the vast bulk of population." Large-scale production has begun to find favour for obvious reasons. Reduction of costs leading to cheapness of the product is the primary aim of modern economic system, without which it would be impossible to find a customer for the product in our modern competitive market. The serious drawbacks of the system are now being increasingly felt as *in the West. Labour disputes* leading to protracted strikes and the consequent privation and misery in a large section of the *community are the inevitable evils in this* system. Insecurity of employment combined *with the necessity of living in an already thickly populated city have led to the sad formations* of slum areas, where sanitation and public health are conspicuous by their absence. And as a repercussion death rate increases and the community is devitalized. Far-sighted philosophers like Dr. Tagore and A. K. Coomaraswamy exhort us not to have East Ends all over the country. In his *Indian Idealism*, A. K. Coomaraswamy warns the Nation against this modern tendency. "Do not let us compete with Western nations by evolving for ourselves a factory system and a *capitalist ownership of the means of production* corresponding to theirs. Do not let us toil through all the wearisome stages of the industrial revolution—destruction of the gilds, elimination of small workshops, the factory system, *laissez-faire*, physical degradation, hideousness, trusts, the unemployed and unemployable and what may be to follow." We are thus faced at this juncture with the all-important question of how our country should march forward to the goal of 'wealth and welfare' for the community. The old forms of industrial organization are decaying and giving place to new methods of productions. But these, we are warned, will have in their *wake starvation, privation, unemployment* and slums in an ever-increasing degree in the community. Japan with similar traditions emerged out of her mediæval conditions in the course of 50 years. But there we find a mere copy of the Western methods. Without entering into that very wide problem of the future form of industrial organization suited to the peculiar genius and old traditions of the country, let us confine ourselves to the inquiry about the method of organization *which would offer the best* possibilities of development to the hand-loom industry. We *know it for a fact that the weaver is exceed*ingly poor and has to depend upon a middleman both for the small capital actually needed in his industry and for the marketing of the products of his labour. They are ignorant and narrow-minded and are unwilling to respond to enquiries about the details of their trade. This narrow-mindedness always comes in the way of a co-operative effort for them. The remarks of the Industrial Commission of 1918 about the need for a technical education to the artisan population of the country *deserve attention.* "Our inquiries force us to the conclusion that the crying need of industrial India at the present time is the *provision of much greater facilities for the edu*cation of the artisan population. Apart from such general measures as Government may find it possible to introduce in the near future, we have recommended the establishment of an efficient system of industrial education in special industrial schools under the control of Departments of Industries." The art crafts of India that had reached a high degree of perfection in former times under the patronage of the then rulers of the country are still being carried on and the skill and tradition of each are handed down from father to the son. With the disappearance of the Courts, the real patrons of these art-crafts, they have begun to show signs of decay. (*Vide* D. R. Gadgil: *The Industrial Evolution of India in Recent Times.*) It has deprived the worker of his main incentive to excel. We have a case or two in point in the Patan Patolas and the lacquer work of Sankheda. Now these artisans need guidance in the selection of new designs corresponding with the change in the fashions of the times.

The most important question in any attempt to develop cottage industries is about the finding of a market. The toy industry of Japan may be cited as an instance of what can be done when organization and enterprise take up this problem of marketing. *Many of these art-craft industries* have survived only through their ability to satisfy a local demand. But whenever we find the products going for a field as in the case of the Patan Mashru and the Unjah Gaji, it is always through the middleman merchant who

doubtedly neglected the potentialities of the lian cottage industries. The merchants ve done nothing to encourage the workers produce goods of a class which would find ready market outside the country. "The wadeshi Stores in Bombay are a good example of an active and successful agency for the ternal distribution of the manufactures of *cottage and other Indian industries* and they ave been evidently of great assistance to a umber of cottage industries by making nown to dwellers in large cities like Bombay nd Poona what other parts of the country are roducing." The Commission further observes, "certain difficulties besetting cottage ndustries resemble problems which, in the ase of agriculture, are being solved gradually y co-operation." They, therefore, laid it own as a function of the Director of Industries, to initiate industrial co-operative societies para. 269) 'especially in cases where fresh round is being broken'. They realized the mportance of improving the position of the ottage worker—especially in the matter of free ale for his goods and advocated incurring f some risk in experimental efforts and sugested that a case or two might be selected o build up an organization for the sale of manufactured articles. "Such local institutions night be started with Government assistance nd control in the first instance and afterwards onverted into co-operative unions." In the natter of bringing new labour-saving devices r *complex pieces of mechanism* as *the jac*uard machines for weaving intricate patterns n hand-looms, there is plenty of scope for seful work. In localities where considerable olonies of a class of workers exist, factories sing such machines if established would soon cquaint the worker with the intricacy of the peration and as in the case of sizing, an auxiary factory can be established with advantage o the weaver community who would draw pon it for their supplies. To start with, uch a factory may be private or State-owned ut in the end it may be converted into a o-operative institution. In view of another ifficulty in the case of industrial societies nvolving large dealings as is necessary in the ase of cotton piece-goods about finding ersons of intelligence and standing acquainted vith the business, it is necessary that such nterprises in their initial stages should be nder State control and guidance which may e removed as the organization gets experience nd the community for which it is principally ntended shows signs of competence to manage uch an undertaking. One of the principal functions of such an organization should be to direct local producers in the production of the various designs suited to the tastes of the market. We have noticed above that except in the case of piece-goods cotton goods are being increasingly imported into the country. With the organization of such an institution, it may be possible to study the tendencies of the market and then to guide the artisans in the selection of their designs. The Patan Patola is a very pretty article but its heavy cost militates against its being in greater demand. Experiments are being made at the Baroda Kala Bhavan in reducing its cost of manufacture without interfering with its distinctive appearance. If a process could be found by which weaving dyed yarn could be dispensed with, the article would be very cheaply manufactured, and according to the Ford Motto it would find a much larger demand. The extent to which co-operative working can be introduced has not been thoroughly investigated, but it is certain at least that there is a great deal of scope for the hand-loom industry to organize on co-operative lines and thus in a measure indicate the lines of the future form of industrial organization which the country may with advantage try.

The growing tendency to eliminate manual labour is in evidence in this industry also. Small power looms are being installed. The possibilities of the Hydro-Electric power open a very hopeful vista in the regeneration of *this industry.* "*The Hydro-Electric schemes* are calculated to serve a double purpose, *viz.*, to supply electric power and irrigate acres of land at the same time and it is possible to combine two different types of mutually helpful industries in one and the same project." If electrical energy could be cheaply generated at convenient centres and transmitted over conveniently long distances many of our cottage industries could be regenerated and placed on a firmer footing and it would provide our rural population with the amenities of life which at present are conspicuously non-existent. With increased population fresh avenues will be opened for them to live a fuller life and the ideals of our philosophers and thinkers may to some extent be realized. This prosperity will be reflected in better food, more sanitary housing and recreation grounds and a more cultural atmosphere will permeate our rural areas whereas in the old days arts may then thrive. Before concluding, let me describe the particulars of a successful experiment to introduce hand-spinning as a subsidiary occupation in a village of the Mysore State.

Badanval, a village seven miles from Nanjangud, was selected for this test. The raiyats there grow a local variety of cotton and majority of them are very poor. There is no subsidiary *occupation worth the name and as almost* everywhere else the agriculturist had plenty of spare time. Spinning by hand had died out there less than 20 years ago. But its memory was still fresh with the old women of the village, who remember having worked at the wheel as girls. There were a few Adi-*karnataka* weavers *plying their trade with* mill yarn. The All-India Spinners Association supplied a scheme for this experiment and sent one of their officers trained in this work. The Association also undertook to sell the finished goods. A working capital of Rs. 3,500 was sanctioned for the purchase of cotton and to give advances to spinners and weavers. Rs. 1,725 were allotted to meet the establishment charges. Work was started on 1st November 1927. 62 persons—mostly of the Adikarnataka weaving community—showed willingness to start their charkhas if raw cotton was advanced to them and an undertaking to purchase all the yarn made, was given to them.

The average output of yarn for the first three months came to about 500 lbs. and the number *of wheels had increased to 598. During the* following three months the output was 710 lbs. and the number of wheels became 560. By June 1928 the number of charkhas had gone up to 1,000. The total weight of yarn spun by the end of August 1928 was 7714 lbs. and the price paid for it was Rs. 6711. After spinning had fairly established, advances of raw cotton were discontinued and the spinners were required to buy their own cotton. Advances of money to spinners and weavers were also discontinued in May 1928. The yarn, in the beginning, was naturally coarse. The purchase by weight was subsequently discontinued to induce the spinner to spin higher counts. In the beginning, the rate of purchase was four annas per bale of 13 tolas. *Along with the introduction of hand* spinning in this locality arrangements were made with some of the looms at the village to weave the yarn into cloth. Only towels could be made from the coarse yarn in the beginning. But as the yarn began to grow *finer, sheets, coatings* and other *varieties* were made. As a result of this experiment 1,000 spinners have found some useful part-time occupation besides the 62 looms which consume all this yarn.

From the balance sheet struck at the end of June 1928 it was found that the working capital *had not suffered any diminution, it* had however increased by Rs. 152. The apprehensions felt in the beginning about incurring a loss have thus proved false. (*Young India*, 29th November 1928.)

If rural reconstruction is to go apace in the country, intensive work on these or similar lines must be carried on all throughout the country. Let us not as heretofore look to the Government to take the initiative in this as in everything *else.* We have amongst us leaders, local and provincial, who can certainly bring a purely business organization of this type into existence in every locality and I am sure Government will not lag behind in extending it all reasonable support in the shape of purchases of the products. We know it for a fact that quite a *large amount of money is annually* spent on charity (may I say misdirected) in a variety of ways which merely sets a premium on idleness. I am sure, if the moneyed classes, whose charity knows no limits and is a byword in the land, are approached in a proper spirit of service, more than necessary funds would be forthcoming to finance such an organization. As has been demonstrated it does not need much finance. What is principally wanted is a number of workers who should devote at least a portion of their time to this kind of work. Let the local leaders emulate the splendid example of Mr. Gandhi and strive to work for the masses—the rural population who, as no other community can, will express their gratitude for the little *that may be done for them by whole-heartedly* co-operating with the workers.

The total area under tea was 752,900 acres. The acres plucked numbered 695,900. The total production of both black and green tea was 390,920,000 lbs. The total exports by sea increased by *11½ million lbs.* Exports to the United Kingdom increased to 307 million lbs. For the year 1927—28 the export of tea was 360 012,000 lbs. by land and sea. The average production for the whole of India per acre was 562 lbs. the highest production in the year was in Madura, namely, 925 lbs. per acre.

The area actually under coffee was 1,55,839 acres. The total reported production of cured coffee during the year was 35,563,321 lbs. The yield per acre of plucked area being 452 lbs. The total exports of coffee during the season of July to June were 2,61, 523 cwts. Mysore accounts for 51 % of the total area under cultivation.

President Hoover.

By An American Journalist.

The average man in the street will tell you of Herbert Hoover—he was christened Herbert Clark Hoover, but discarded the middle name in the early days of his public career—that he looked after the Belgians' food supply during the World War, that he is Secretary of something or other in Washington where he has done a lot in standardizing things generally, that he has the reputation of being an efficiency expert of considerable ability, that he took care of Mississippi flood relief and that his picture has been appearing in the photogravures with gratifying regularity for several years past. But few seem to know much about the actual career of the man.

Descendant of Quakers.

Herbert Clark Hoover's parents lived in a little Quaker village in Iowa, known as West Branch. They were Quakers and their ancestors had been Quakers, but more remote ancestors were Dutch and French Huguenots, the name in fact having been derived from the Dutch, Hoover. A branch of the family runs into Canada, but Herbert Hoover's more immediate ancestors are thought to have come to America during the early eighteenth century.

The town of West Branch is situated about 25 miles from Cedar Rapids, on the Chicago Rock Island and Pacific Railroad, and in 1900 its population was given as 674.

In this rural atmosphere, the son of a country blacksmith and scion of a long line of Quaker ancestors, born on August 10, 1874, Herbert Hoover remained until he was eight years of age, when he was taken by an uncle to Newberg, another Quaker town near Portland, Ore. His brother and sister Theodore, $3\frac{1}{2}$ years older than Herbert, and Mary, considerably younger, were likewise cared for by relatives after Hulda Minthorn Hoover, who only survived her husband but a few years, passed on. Theodore Jesse Hoover is now head of the graduate department of mining engineering in Stanford University.

For a time Herbert Hoover helped on his uncle's farm, it being his guardian's intention later to send him to a Quaker college, but the young man had plans of his own regarding the sort of schooling he desired. His thought was set on a modern university, where he might specialize in natural science. Shortly after, therefore, he obtained work as an office boy in Portland, where he not only supported himself, but by studying at night prepared himself for Stanford University, California.

Paid His Way at College.

During his four years at Stanford Mr Hoover was entirely self-supporting, his revenue being obtained from profits derived from running a laundry.

Mr. Hoover majored in geology and, upon graduating from the university in the class of 1895, went to the Grass Valley mining region and worked as miner and shift boss. For a short time he was also in the office of Louis Janin, a leading mining engineer of the West. His rise in the mining world was unusually rapid. His first journey from home was to Australia. A youth of 23, fresh from college and a strenuous engineering apprenticeship, he was sent into the newly discovered gold fields of West Australia as a member of the engineering staff of a group of 15 partially developed mines.

Director of Mines in China.

So great was his success in Australia that, at the age of 25, he was appointed director of mines for the Chinese Empire. Before taking charge of this post, however, Mr. Hoover returned to California for the purpose of marrying Miss Lou Henry of Monterey, who had been a student at Stanford with him, and who as Mrs. Hoover accompanied him to his new field in the Orient. They were both in Tientsin during the Boxer rebellion of 1900, and it was here that Mr. Hoover organized his first food relief. Later he became chief engineer of the Chinese Engineering and Mining Company and his first job was the construction of a port on the Gulf of Chihli. He and his engineering associates left an excellent impression of American methods and standards in the many sections to which their activities carried them.

From 1902 to 1914—the years in which Herbert Hoover built his fortune—the list of countries in which the dynamic influences of Mr. Hoover was felt is atlas-like in its variety. Belgium, Borneo, Burma, Canada, China, India, Italy, Korea, Malay, Mexico, Nicaragua, Peru, Russia and South Africa are some of them.

Then, in 1914, came the World War and

Herbert Hoover emerged as an international figure for his memorable work in relief, which *began with his success in getting Americans* out of the war area and was followed by the task of feeding Belgium.

BECAME FOOD ADMINISTRATOR.

With the entrance of the United States into the war, Mr. Hoover was called home by President Wilson to the important post of Food Administrator

"Food will win the war," was his first message to the American people, blazoned in electric lights and on billboards from Broadway to the remotest village in the land. It was *followed with an appeal to the American* housewife to save food and the farmers to produce more than ever before. The campaign succeeded so well that the United States not only was able to feed itself and its armies but to aid its allies as well

The end of the war marked no relief for Mr. Hoover. In Europe millions of women and children lacked food and the spectre of revolution threatened to perpetuate the ravages of war Food and clothing in immense quantities had to be procured and distributed.

Mr. Hoover was appointed director of the various economic measures in Europe during the armistice, which included the organization of food relief in Poland, Serbia, Czechoslovakia, Germany, Austria, Roumania, Armenia and the Baltic States With the outbreak of famine in Russia the activities of the American Relief Administration under the chairmanship of Mr. Hoover were extended to that troubled land.

Mr. Hoover was first discussed generally as a presidential possibility in 1920. There was some public uncertainty as to his party affiliations, in response to which he issued an open letter declaring himself to be a Republican. The campaign for placing his name in nomination, however, was poorly organized and at Chicago when his name was placed before the convention it was received with great applause but few votes.

NAMED TO HIGH POSITIONS.

Since March, 1921, when he was appointed to the position by President Harding, Mr. Hoover has been Secretary of Commerce and has made his department a model of efficiency. During the Coolidge Administration it has been customary to assign new and difficult tasks to Mr. Hoover. He was made Chairman of the President's Conference on Unemployment, the Colorado River Commission, the St Lawrence Commission, the National Radio Conference, the World War Foreign Debt Commission, the Mississippi Flood Relief Commission, and President of the International Radio Telegraph Conference. This list does not include his private activities as President of the American Institute of Mining Engineers and of the American Child Health Association, and Trustee of Stanford University, which latter post he has held since 1912.

The possessor of considerable wealth, Mr. Hoover occupies an unostentatious house in Washington in the same block where President Wilson resided. Another house, however, *always considered the family home, was built* for him on the campus of Stanford University at Palo Alto, an institution in the service of which he spent much time and money. If he has a hobby it is camping out with his two sons, Herbert Clark, Jr., and Allan Henry.

MAKES DECISIONS QUICKLY.

As Prof. Everett S. Brown of Ann Arbor, Mich. once a member of Hoover's staff, says of him: "Hoover is an American who believes in doing things rather than talking about them. He wants the facts in every case but once in possession of them he makes his decisions quickly. He is intensely loyal to those he serves and he expects that same loyalty from those in his service. He is quiet and undemonstrative but injustice or cruelty, particularly to children, arouse him to bursts of indignation. He is not a popular mixer of the back-slapping type but he has a great facility of making friends and admirers of all who come in close contact with him. To all those who have been on his staff he is affectionately known as "The Chief".

Perhaps an indication of Mr. Hoover's attitude toward politics may be seen in a statement he made not long since:

"If democracy is to survive throughout the world," he declared, "it must be a success in the United States of America. As America a century and a half ago announced to mankind the great spiritual ideal of democratic government, so to-day the fate of that ideal for many generations to come must rest in the hands of the people of the United States. If we examine *democracy in its larger aspects we shall find that Government is fundamentally a spiritual* ideal—an ideal that will not succeed unless it be rooted in the hearts of the people and is supported by an understanding of its great *purpose.*"

England's Chance.

By A. S. Venkataraman, B.A.

It is plain to the simplest understanding that the terms, "nations", "nationals", "national interests", all become meaningless expressions when we consider the fact that the whole world is really one huge microcosm, one huge whole, one single unit for purposes of its vital existence, in so far as it is determined by international trade and mutual interdependence. Politically exclusive and apart but commercially dependent and drawing nearer to one another, each country finds itself in an apparently difficult and contradictory position. For instance, Great Britain at the present day gets "deal from the Baltic, mahogany from the Honduras, dyes from Germany, woollens from France, tea from Ceylon, sulphur from Italy, bananas from the West Indies, maize from the Argentine, coffee from Brazil and cotton from America, rubber from Congo and asbestos from Canada." In the same way, no country is self-sufficient, in fact each is dependent on others.

The inevitable corollary is that this mutual international dependence should, as far as possible, be minimized. At any rate, that is the ideal of each nation a bitter lesson learnt at an enormous cost after a loss of millions of lives and many more millions of sovereigns, dollars, etc. Probably if each power had its own empire, its own colonies, it could be self-sufficing. The necessary products might grow within the borders of the Empire. For purposes of commercial facilities, preferences might be shown to empire products, as against other countries in order to establish a microcosm within a macrocosm.

That this was not only well understood but also better carried out by Great Britain than any other power is clear from the extent of her empire which embraces a fourth of the world's area and fourth of the world's population. Bigger than any other state in the world, nine times the size of the German empire and more than three times the size of United States of America, the Empire is so vast that her social, political and economic problems are varied. The contrast becomes more glaring when we notice that Great Britain by herself is a small state with less than $\frac{3}{4}$ of the population of Germany and less important than either Germany, France, Russia or the United States. Of the entire white English-speaking population of 60 millions in the Empire, British Isles claim $\frac{3}{4}$ while among others there are also Canadians of French origin speaking French, Canadians of other nationalities and South Africans of Dutch and German extraction. Only a little more than 12 millions of British settlers is found in all the British colonies and these govern 360 millions of subjects working at the rate of 30 subjects to each colonist.

It is hard to believe that this empire was built up in a fit of absent-mindedness: but there is also some truth in it if we consider that of the constituent parts some were added by conquest, some by mere occupation and some by settlement. "The expansion of the Empire was guided by no consistent policy, unless the shifting of policies itself be considered a policy."

It is beside the point to trace the growth of this vast empire in this short article but few will deny that getting on with the empire is more difficult than getting it. If the old colonial system had been continued, probably all the colonies would have been lost to Britain, and schemes of expansion of the Empire, a mere chimera. Whatever might have been the faults of the Britisher—and there are many—the fault of not learning a lesson even after the fingers are burnt, is certainly not his. Without pretending to the exactitude of a mathematician, one will readily see that the old colonial system or the mercantile commercial policy was perhaps more responsible for the American Revolution than the political cause, the right of the mother Parliament to tax the colonists. According to the old system in force till 1782, the mother country was responsible for the defence of all the scattered settlements which were exposed to attack from all sides. In return she expected certain definite trade advantages. Inter-imperial trade was to be carried on in English or colonial vessels. Some of the important colonial products were to be sent to England in the first instance before export to other countries in order to enable English merchants to realize the profits of selling them and to enable the English Government to realize the proceeds of duties on them. Surely it was stipulated by an act that imports into colonies should come from or through England. England was to be the commercial entrepot of the whole Empire and the chief beneficiary in the Empire which became an economic unit. The fear of an impending revolution

in Canada corresponding to the American Revolution compelled the English to give a large measure of autonomy to the French *of Quebec, just as the later English-speaking* Canada, developing in the same way as the United States of America, could never have been kept in the British Empire on any other basis than that of autonomous representative institutions This furnished an example to Australia and New Zealand. In response to constant rebellion, South Africa was given *self-governing institutions soon after* the Boer War, after five years of resistance* On Ireland too, except Ulster, was conferred *Dominion* Status

The tie between the mother country and the colonies, now-a-days, is becoming less and less real. As early as the Boer War, Britain's appeal for contribution in men and money, was answered by the Canadian Premier, Sir Wilfred Laurier's dictum, "Canada does not intend to be drawn into the vortex of European militarism". Later, the Canadian Government agreed to support on her own terms not as Britain chose. The Canadian ships were to be used in Canadian waters, be manned by Canadian officers and fly the Canadian flag. Canada and other dominions too have asserted their rights for tariff autonomy but are inclined for Imperial Preference because of certain trade advantages. The Canadian interests in the United States are represented by Canada's ambassadors' action in conjunction with the British ambassador on all Canadian affairs. On the question of emigration, all self-governing Dominions have barred their Indian fellow-subjects. While people of Britain and the Dominions can not only enter Indian service but also reside in and trade with India, the Indians already settled in the colonies are being deprived of their equal political rights. Thus in the Empire itself, several classes and grades of citizenship are springing up The participation of Dominions in the war, involving loss of men and money, emboldened them to demand repression in the *Imperial War Cabinet, Peace Conference* and the League of Nations The principle of virtual independence asserted in 1907 was re-asserted in the Imperial Conferences of 1915, 1917, 1918 and 1923. Even in matters of Imperial Foreign Policy, their participation resulted in the abandonment of Anglo-Japanese alliance in 1921 so advantageous to the British political and trade interest in India and Hongkong. As a renowned Professors remarks "The danger to the solidarity of the British Empire, as far as the self-governing Dominions are concerned, lies in the divergency of economic and political conditions, and from the desire of the Dominions *to share in the privileges of the Empire.*" The Dominions fear the expansion of Japan as a menace to their security and therefore want to exclude the Japanese from their territories But the mother country has a good deal to profit by the alliance with Japan and friendly association with India. The problem is for Britain to make a choice between *India and the Colonies.* Therein lies England's chance of riches and power of poverty and fall.

Again at the Peace Conference, the Dominions demanded their share of the German colonies, despite their sparse population. A thickly populated dependency like India has been not only excluded from emigration to colonies but also expansion in tropical and semi-tropical thinly peopled tracts like East Africa. If in keeping India a dependency, *England solicits the help of the Dominions,* then she must be prepared to give away a good many prize-posts and good share to the colonies in the exploitation of the dependency. Again in return, Britain must approve of the Dominions' laws of exclusion of immigrant Japanese and Indians. That would necessarily mean an alienation of Japan's sympathies and a *peril to England's relations with India.* After all, the Dominions are sparsely populated. Australia has population of scarcely 5 millions, Canada 12 millions, New Zealand and South Africa, each having a million Whites! Yet all of them do require immigrants and labour, but not Indians. The Australian Premier said that Australia could *support 100 millions of White people.* Till that time, India and Japan, over-crowded countries, will have to wair. Not content with these, some Dominions have become mandates. Is India in the League of Nations only to see her people degraded and excluded from other Dominions? The problem of Indian immigration, barred from the self-governing *Dominions and even from the tropics,* is an acute problem which is likely to become more and more serious unless English statesmanship rises to the occasion.

The fact is that if the tie is largely sentimental it is also slightly profitable. Let us take only this aspect of the question, the balance of advantages and disadvantages. Europeans cannot be acclimatized to tropical countries. Indians are known to be thrifty and industrious. Australia, New Zealand and South Africa were liabilities to the mother

untry for a long time. The balance of advantages has been always against England. She has long enjoyed the doubtful privilege of owning these Dominions. Relations with Asian or African territories on the other hand have always been profitable. India, the most important of all possessions, has been priceless. A large part of her revenues goes to England as Home charges, and two-thirds of it are spent in the maintenance of an army used to extend the British Empire in Asia and Africa. Again from the point of view of capital investment, India has offered a rich field, equal in value to all the other colonies put together, so much so that the question of India has been ruled out of British party politics. Generations of Englishmen have been guaranteed a decent living. On account of India, wars with Siam, China, Persia and Egypt, Russia France and Turkey were undertaken. England's connection with India centres round the problems of emigration and fiscal policy. Emigration is bound to antagonize the relations with colonies unless it is tactfully handled and successfully solved, Japan's future also being involved in it. Fiscal policy affects the relations with the mother country herself. Britain's policy of economic imperialism or colonial exploitation must be given a decent burial. As it is, Imperial Preference is nothing but old Mercantilism writ large, as long as England is the only beneficiary. The question is whether England will abandon this policy of exploitation, and take the chance.

Economic Equilibrium in India.

By Miss G. Ponnaiya, M.A.

Political economists are of opinion that economic stability is generally obtainable in a State where peace and order reigns, where there exist no inequalities of opportunities for the people's work, and where the agents of production, land, labour, capital and business organization—each obtains a just and equitable share of the dividend. In other words, they opine that economic equilibrium depends on Economic Justice.

In India in the days gone by, the balance of the economic situation was sought to be maintained by our ancestors in a wise manner. They were by no means like us, looking only to their past for inspiration and guidance, seeing that they made an innovation by instituting the caste system, for the regulation of labour, the joint family system to maintain surplus as well as the minimum wages and customs to regulate prices. These systems have played so vital a part in our economic life in the past that we failed to realize their full economic significance until actually forced to face competition and contract the inevitable ills of the Industrial Revolution of the West. Thus we are now gradually finding that our Socio-Economic Institutions are becoming hindrances to our progress rather than helps.

In the olden days, every village was an economic unit in itself.* Mobility of capital, labour and business organization was there. Producers were interdependent and so there was no distinct class of consumers apart from the producers themselves. Capital and Labour were similarly identical in the village unit. Over-production and under-consumption were unknown. It was rare to find maladjustment resulting in wide changes in the price level. But the rude shock that the modern methods of mass and factory production have administered to the Indian economic life has upset the economic justice that existed in the ancient days. Before India could properly adjust her economic balance, she found herself amidst a conflict of forces brought to play upon her by interested parties so that she might not get the required rest and steadiness to find any level. The defect of the Western modes of production have perpetuated themselves here in India. Witness the unequal distribution of opportunities which still obtain in the West. Strikes are an indication that capital has got the upper hand of labour, and that labour in its turn resents any pressure brought to bear upon it. Large dividends are an indication of the predominance of capital, while the necessity for levy of Excess Profits-Tax show that the State uses its powers to draw upon the surplus production of wealth as a measure of equalizing, at least to a small extent, the distribution of wealth. The existence, in most countries, of Income-tax and the Super-tax is again indicative of the disturbed state of economic equilibrium, which necessitated their institutions so as to erase inequalities prevailing in economic life.

As matters stand at present, it is the Government that can see that some measure of economic justice is meted out to the governed. It is clearly its duty to see that capital does not unduly exploit labour and that labour

does not unduly pillage capital. It has to maintain a co-ordination of the different interests in economic life by relating them to itself. Every representative interest must be free to express itself while at the same time it serves the needs of the rest. It is manifestly the duty of Government to see that the men whom it employs in this business of dealing out economic justice, should, like those employed to render legal justice, be highly efficient, combining in themselves good theoretical knowledge and sound practical experience. It is needless to point out that the want of such a combination has often led to hair-brained projects on the one hand, and indifference to the public weal on the other.

The question may be asked—can the fixing of minimum wages, the setting apart of surplus for evil days, and the limiting of the maximum of profits solve the difficult problem of maintaining the just balance of economic life in India? The answer is that in this land, it would be extremely difficult to determine the minimum wages as the standards of living are so varied and unequal, differing with every locality and every sect. Again, as this land does not boast of many indigenous large concerns run with the aid of local capital, and, as almost all her industrial enterprises are in the hands of foreigners, chiefly, as she cannot find capital, she has absolutely no say in the matter of fixing up maximum wages. Indian capital is known to be shy, and if dividends were to be limited, both Indian as well as foreign capital cannot be enticed any more. Under the circumstances, the maintaining of a balance will be impossible. As it is, only by the publication of facts and figures relating to the distribution of wealth among the agents of production, will the economic situation come to be revealed, and the public censure that must inevitably result will give the needed correction.

There are, however, certain other pernicious influences existing now, having cropped up with the decline of our time-honoured institutions, and exerting themselves to upset the economic equilibrium. The first and foremost is the profiteering middleman. These active intermediaries sap the very essence of our economic life. They reap where they have not sown. They exist because there is no efficient institution to bring producer and consumer together. They are the publicans who levy tolls from consumers as well as producers. These have to be got rid of and the co-operative credit and buying and selling societies might very well displace them soon.

Secondly, the money-lenders, the leeches and harpies of society, must go. They played the part of bankers to our producers, but their methods are proving ruinous to all industries, chiefly to agriculture. They have adapted themselves to their environments and have thriven while they have consistently impoverished their clientele. Unless they radically reform their ways and give up their extraordinary avarice, they must be eliminated by the more modern institutions of Agricultural and Industrial Banks, Co-operative Credit Societies, Land and House Mortgaging Banks and the like.

Thirdly, there is the great army of the unemployed. They try to make their living without labouring because they can get their share although they cannot get employment. This maladjustment of labour to the demand drives them to the doors of charitable friends and relations and neighbours. The fact that in most cases they earn very little above their normal requirements does not deter their less fortunate brethren from drawing freely upon them. The self-denial of the labouring unit impairs its own efficiency and the economic equilibrium is thus once more jeopardized. It is up to the Government to solve the problem of unemployment by providing work for the unemployed bearing the initial cost. New enterprises may be launched or more arable land may be thrown open for cultivation with sufficient initial capital provided by the Government.

Fourthly, there are the able-bodied beggars and religious mendicants who are upsetting the balance of economic justice. This is peculiar to the East and particularly to India, and the sanctions of custom and religion which originally aimed at distribution of the alms among the very needy, have been abused now so that it is made a profession and a source of income. A radical remedy is urgently called for. The Government should take steps to penalize beggary by able-bodied persons, and in the case of religious mendicants, provide for their being licensed after ascertaining their ostensible means of livelihood. In places where land is available for cultivation, efforts should be made to open settlements for the able-bodied among the beggars who have no means of livelihood whatever. Subsidiary occupations may also be taught and the settlement should be self-supporting. This may easily be done if good clothing and shelter alone is provided to the inmates until such time as they feel that they could go out and make their own living by any

upations that they have learnt with a view the future. As for the infirm, the blind, the lame and the maimed, who fall upon the State for help they must be taken into suitable asylums established by private or public charity, and provided with the comforts of life. Even among them small industries could be cultivated to the extent of their abilities and their economic usefulness thus increased.

It is a mistake to suppose that in India there is no one who does not contribute to the production of economic wealth. There are very many persons who are merely eking out their existence from day to day, who are a drag to economic progress. There are many who would not lift up their little finger to do a stroke of work that they may earn. These are the idlers who rely on the fortunate chances of getting their requirements from others and more or less live the care-free lives of animals. These are comparatively few, but drastic steps must be taken to rid society of those parasitic pests.

The systematic exploitation of labour that obtains so generally in India, both by foreign and indigenous capital, must be mitigated if not forbidden on some sound basis.

The enormous cost of administration and defence in India must also be cut down to reasonable proportions in order to stabilize the economic situation of the land.

Economic stability can only be achieved by the combined efforts of the Government and the patriotic intelligentia of the country. Indian Socio-Economic life is quite different from that of the West. Indian conditions must be carefully studied and suitable measures taken to maintain economic stability in every part of the land. It must also be noticed that conditions are different in different places and that no universal panacea can be prescribed. Until India could stand on a footing of economic equality with the advanced countries of the world, she will have to endeavour to rectify the various internal economic defects, and then she will find herself prepared to attack her external economic troubles so as to take her rightful place in the world.

Australian Banking Policy—An Object-Lesson.

The widespread disruption of monetary machinery resulting from war and post-war financial developments gave rise to an almost universal and in some cases exaggerated faith in the efficacy of central banking as a bulwark against a repetition of such unfortunate occurrences. The consequence is that the birth-rate of central banks, actual or nominal, in the past ten years has been higher than at any other period in history, while in addition steps have been taken in some places with the object of entrusting to existing institutions the performance of central banking functions. An interesting example of the second line of procedure is provided by recent developments in Australian banking.

It will be remembered that the Commonwealth Bank of Australia, a state-owned institution, was opened for business early in 1913. It has never possessed all nor yet many, of the distinctive qualities of a central bank. It has in effect a monopoly of note issue, and performs clearing services for the trading banks. On the other hand, the trading banks do not maintain a large proportion of their cash reserves in the form of balances with the Commonwealth Bank, nor does this institution hold by any means the whole, or substantially the whole, of the monetary gold stock of the country. At the end of June last, for example, it had in its Note Issue Department £22¼ millions of gold, while the trading banks between them held as much, if not more. It cannot be said, therefore, that the Commonwealth Bank is at present in a position to carry out fully the functions of a central bank; at the same time, some of its business is by no means of a pure central banking character.

It was with these and other facts in mind that the directors of the Commonwealth Bank arranged for a visit, early in 1927, from Sir Ernest M. Harvey, then Comptroller of the Bank of England. Prolonged discussions took place within the Commonwealth Bank, while in addition a meeting was arranged with representatives of the other banks. The immediate result was the formation of a small committee, representing the banks, for the purpose of considering the establishment of a central banking system. Insufficient time has elapsed for tangible evidence to be available of practical accomplishment on the vital questions of pooling cash reserves and concentrating the gold stock, but suggestive, though guarded, comments on the general topic are contained in the latest half-yearly report of the Commonwealth Bank. The

statement is made that some progress has been accomplished towards the setting up of a central banking system, the establishment of which is "not unfavourably viewed in banking circles". Attention is then directed to the provisions of the British Gold Standard Act of 1925 and Currency and Bank Notes Act of 1928, and selected clauses are quoted in full, "their real significance [being] left for the consideration of those interested in finance." The selection of provisions appears to give an unmistakeable clue to official Australian views. Three clauses of the 1925 Act are quoted, relating to the abandonment of convertibility of notes into gold coin and suspension of the right of the public to take gold to the Mint for coining. The quotation from the 1928 Act relates to the right of the Bank of England forcibly to buy gold held in the United Kingdom and not required for immediate export or for industrial purposes. Clearly, then, the extreme concentration of gold reserves in this country is being put forward, tentatively if not explicitly, as one of the goals of official Australian banking policy. In addition, further emphasis is placed upon the desirability of effecting economy in the use of gold. "The directors," according to the report, "have continued the policy of *disposing* of *surplus* gold overseas . . . holding as they do the view that the hoarding of gold in excess of reasonable requirements is economically unsound." This is an expression of opinion which is particularly welcome from a potential central bank at the present time, when current views as to what are "reasonable requirements" seem to be bringing a variety of central banks perilously near the point of "hoarding". It remains to be seen how far the twin policies of internal concentration and international economy in gold will be pursued as the outcome of the discussions undertaken in Australia.

The latest report of the Commonwealth Bank, however, is interesting in another connection, in that for the first time it contains a brief but valuable review of trading conditions, particularly in connection with monetary developments, during the six months to which it relates. But it is much more than interesting: it is indeed historic in that it supplies official evidence of the consequences of a step taken about six months ago towards greater specialization of function. Under the Commonwealth Bank Act of 1927 provision was made for the separation of the Savings Bank Department from the general business of the Bank. Accordingly the Commonwealth Savings Bank of Australia, as it is called, n publishes its own half-yearly balance she and profit and loss account. The Savin Bank operates as a separate institution thou conducted under allied management and the premises of the Commonwealth Ban In addition, its first half-yearly report is pu lished in conjunction with that of the Ba from which it sprang. Meanwhile the Ru Credits Department is still operated as a secti of the Commonwealth Bank, its assets a liabilities being included in the general balan sheet, and its profits in the general profit a loss account.

It appears from all this that some real pr gress is being made towards strengthening t central banking character of the Commonweal Bank. Recently, however, another develo ment has taken place which, while it does n directly affect the constitution and power of the Commonwealth Bank, marks a defini achievement in the broadening of the bas of the Australian monetary system. At t end of September it was announced that th Australian banks, including the Commonweal Bank, were prepared to open current account in Australia for their banking corresponden in other countries. This announcement open the way for some extension of the Australia exchange market, since hitherto Australi and New Zealand had stood practically alon in that outside banks had been unable t operate accounts in Australia with local institutions. The exchange business between thes two countries and the outside world had therefore been practically a monopoly of the local banks. The step now taken, however, afford at least an opportunity for outside banks t participate directly in exchange business wit Australia and New Zealand. Whether the opportunity will be rapidly and generally seized cannot yet be foreseen for the maintenance of a current account balance in Australia is a comparatively unprofitable proceeding in view of the limited scope for the employment of short-term funds, while in addition the seasonal concentration of demands for exchange on and from Australia, coupled with the small commission charge in respect of turnover on the projected current accounts, entails a relatively high cost for the new facilities. One event incidental to the new arrangement, however, is perhaps significant. It was officially announced from Ottawa that future banking business between Canada and Australia would be conducted direct instead of through London. This indicates that in one direction at least the Australian exchange market is in fact being

adened, and it is perhaps not improbable t the next few years may see a similar ovement elsewhere.

It is very obvious from these facts that a ocess of intensive modification of the Aus-alian banking system is now going on. It is possible to say how far the process will be rried as a result of the present movement, hough events will naturally be watched losely with a view to seeing what their cumulative effect is likely to be. At least the official attitude is clear, and it is perhaps significant that Sir Ernest Harvey should have chosen Australia as his platform, though the world was his audience, when delivering his address on the thirteen principles of central banking. So far as Australia uses these points as her guide she will undoubtedly be moving in the line of what is generally accepted as modern banking progress.

The Refining of Ghee.

By Dr. R. L. Dutta, D.Sc., F.C.S., F.R.S.E.,

Industrial Chemist, Bengal.

This investigation into the process of the refining of ghee was undertaken at the request of one of the leading ghee refiners of Bengal and the United Provinces and the results are published for general information.

Ghee is generally manufactured from the butter fat of the milk of cows and buffaloes by dehydrating the butter fat by heating. The ghee thus produced is called "kancha" ghee, and is generally made by the actual producers of milk. This ghee still contains a considerable quantity of impurities and has to be refined further before it can be sent to the market. This is generally undertaken by big refiners who buy small lots from the actual producers. The crude ghee contains much dirt and organic matter derived from the milk, making it dirty and not fit for marketing as the organic matter develops an undesirable odour due to its decomposition if it is stored even for a short time. The dirt also injures the colour of the stuff.

The process commonly adopted for the refining of ghee consists in melting and heating it so that scum separates and carries the impurities to the top. By this process the ghee is, however, only partially refined inasmuch as the refined article still contains considerable quantities of impurities generally present in the crude ghee. Besides the product has a tendency to harden and lose its natural flavour owing to the ghee having been heated to a fairly high temperature during the operation of refining.

In working out a satisfactory process for the refining of ghee, it was found that the ghee cannot be treated in a drastic manner for the purposes of refining as there is a danger that the natural colour for which the ghee is prized may be lost as the result of such treatment. Further as the product is used for edible purposes no chemical re-agents can be employed for its refining. It was found that if the crude ghee is boiled with water for several hours, the natural flavour of the ghee is almost entirely lost at the same time. It was also found that if the product is heated to a high temperature to dry it and improve its keeping qualities, the ghee is hardened to a very great extent.

In the process described below, the above difficulties have been overcome and a very pure product free from all impurities can be obtained in which the natural flavour and pale colour of the ghee are maintained. The process is carried out as follows :—The ghee is taken in a deep iron vessel along with about twice its weight of water. The vessel is then gradually heated and the ghee is stirred constantly with a ladle. By this process, all the organic matter derived from the milk is gradually taken up by the water which becomes more and more cloudy and the ghee which forms the upper layer of the mixture appears clearer and clearer with a tendency for the dirt and impurities to separate at the bottom of the ghee layer. The stirring is continued till the water begins to boil. The mixture should be allowed to boil for about 5 minutes. It is now allowed to cool when the ghee collects as a clear and transparent layer at the top, with the scums and impurities at the bottom of the ghee layer, while the water assumes a whitish muddy appearance due to the extraction of all the organic impurities derived from milk. When the ghee has cooled to a certain extent and the separation of the ghee is perfect as a clear layer. the top layer consisting of the ghee is taken out by means of a shallow vessel or ladle and poured through a thick linen filter when a further quantity of impurities are removed. The layer of ghee can also be decanted off by means of holes fitted with

taps or cocks on the sides of the vessel at different levels and filtered through linen. The last portion of the ghee which cannot be conveniently removed or decanted off is taken along with a fresh charge of crude ghee or preserved for several such lots to be refined again as above in smaller and deeper vessels when the scums will be concentrated and the ghee recovered. The concentrated scum is finally secured by filtering the ghee through linen and the last traces of ghee can be recovered from the scums by squeezing it out of the piece of linen containing the impurities.

The ghee as obtained above retains the natural colour and odour of best quality ghee in a very delicate form and is absolutely free from all impurities. It has been observed that on account of its greater purity, the refined product has a tendency on cooling to form larger crystals than is generally found to be the case in the market. The formation of the larger crystals has to be avoided to suit the market requirements. This is generally accomplished by stirring the ghee occasionally while it crystallizes.

The ghee thus obtained can be sent to the market in sealed tins as is usually done. But if the ghee is required to be stored for a fairly long time, it is better to dry the ghee from the traces of moisture contained in it on account of its treatment with water. The removal of the traces of moisture improves the keeping qualities of the ghee. This can be done by passing a current of hot air through the liquid ghee before it is allowed to crystallize for a short time about 15 to 20 minutes care being taken not to continue this operation for a longer time as that would drive off a portion of the natural flavour of the ghee. For the passing of the hot air a most convenient and economical arrangement is to heat an iron tube over an ordinary fireplace and force a current of air through the tube by means of a foot blower. The hot air should be allowed to bubble through the ghee. Instead of passing hot air, the ghee can also be dried by heating it at about 100° C. for some time depending on the "ripening" desired.

The cost of treatment per maund of ghee according to this process will range between annas 8 and Re. 1 according to the quantity refined at a time. For refining very large quantities at a time the cost will be less.

Demonstration of the above process can be given by the staff of the department at the request of *bona-fide* parties.

American Enterprise.

The decision of General Motors, India, a subsidiary of the General Motors Corporation, to establish a factory in Bombay which will manufacture motor-cars and trucks for India, Burma, Ceylon, and Persia affords solid testimony of American belief in the vast potentialities of the Indian market for motor vehicles of all descriptions. The decision is the more significant in view of the reduction in a recent Budget of the import duty. Rumours have been circulated periodically for years past that Fords Limited, contemplated establishing an Indian subsidiary, but the General Motors Corporation, whose products have undoubtedly benefited appreciably in this market by the temporary closing down of Ford production, have made the first move.

Upon the further obstacle thus interposed to the recovery by British makers of their pre-war supremacy in the Indian market it is not necessary to dwell. The inquiries undertaken by the Roads Development Committee presage a large expansion in the Indian demand for motor vehicles, and the Bombay enterprise reflects American determination to keep this demand, as far as possible, flowing along the American channel. Indian opinion is naturally sympathetic in its attitude towards an innovation which involves no conflict with any established indigenous industry. A branch office of the General Motors Acceptance Corporation is being established in conjunction with the Bombay manufacturing plant, affording convenient time-payment facilities to motor-car purchasers.

The Bombay plant, utilizing a total capital of about a crore of rupees, will maintain 21 separate manufacturing departments. A test track for final testing and inspection of all cars and trucks will be built. The most up-to-date machinery and equipment will be employed.

Concerning British cars, three successive measures are called for. First, a wide extension of newspaper advertising, in regard to which British cars are at present entirely overshadowed owing to the extensive publicity accorded to the American types. Secondly, British manufacturers would be well-advised to expedite the special exhibition of British cars in Calcutta and other centres discussed last year and postponed *sine die*. Thirdly, as it is highly improbable that Fords Limited, will leave India entirely to the General Motors Corporation, it is none too soon for the leading British producers to consider the expediency of emulating American enterprise says *the "Times" Trade and Engineering Supplement*.

India's Contribution to Science.

By Dr. V. R. Kokatnur.

In discussing the subject of "India's Contribution to Science" I do not wish to use the word "contribution" in its accepted sense of "conscious giving". It is possible that neither India contributed anything nor did the world receive anything knowingly from India. But India had known many scientific truths, had developed the elements of most sciences and placed the results before the world in prehistoric times. In this sense India should be credited as a very large contributor to the scientific development of the world.

It is claimed that the progress in the last century is equal to and greater than the progress of humanity in the entire past. I take issue with this claim. While the speed of progress is undoubtedly greater now than heretofore, the world as a whole had made only slow progress due perhaps to the fact that it has had to re-discover many of the ancient truths. Thus we are paying dearly for our pride. If the ancient truths discovered by India had been utilized by the West, our scientific progress would have been far greater than it is to-day. Since the time at my disposal is rather short I am going to discuss just a few scientific truths discovered in India which, had they been utilized by the West, would have enriched our science considerably.

Knowledge of Life.

Hindus were highly advanced in medicine. They called this science by the name "knowledge of life". They had extensive knowledge of anatomy, physiology and some bacteriology. Surgery was developed to a very high extent and some of their methods have infiltrated into our modern surgery, what is known to-day in the modern world as plastic surgery—taking the live tissue from one part and grafting it on another part—is of Hindu derivation. Even the names of some of the modern surgical instruments look like translations of old Sanskrit names.

Hindus were very fond of imagery and allegory. They wove beautiful stories round some of the simple truths. Our modern pharmacy owes many of its brilliant discoveries to primitive truths discovered centuries ago. The modern discovery of the cure of leprosy by Chaulmoogra oil is one of such primitive truths that has been recently rediscovered. The efficacy of Chaulmoogra oil in the treatment of leprosy was known to India as early as Buddhistic times. A Buddhist story regarding this discovery runs as follows:—A certain princess who was afflicted with leprosy left her home for a pilgrimage. In her travels she came upon a beautiful forest which seemed to invite her to stay. The princess did make her home in the forest and lived in one of the crevices of a tree, which is to-day known as Chaulmoogra tree. Instead of segregating herself due to social ostracism, she was happy to choose this voluntary segregation. A few years later a Buddhist prince was hunting in the same forest. In pursuing game, he accidently saw something that looked like a woman. Curious, he followed her to the crevice. He was mystified and called to her asking who she was. The princess answered saying that she was a princess from India. The prince recognized the princess and invited her to come out of the crevice. On her coming out the prince exclaimed: "What has become of your leprosy." This is the germ of discovery of the cure of leprosy. The Chaulmoogra tree has ever since been regarded as a holy tree.

Now the discovery could as well have taken place 100 years ago as now. The only thing that prevented such a discovery was our arrogant attitude towards Indian discoveries and Indian civilization. We are used to calling such truths superstitions. Such an attitude has cost the leper humanity 100 or more years of avoidable suffering.

Discovery of Papiotin.

Another example of lately re-discovered ancient truth is the discovery of the vegetable pepsin known as papiotin. A traditional belief of the Hindus ascribes to the tree known as Papaya, the property of rendering tender tough meat. It is assumed that tough meat wrapped in Papaya leaves becomes quite tender. This Hindu discovery went unheeded all these centuries until very recently "papiotin", the only known vegetable pepsin, has been isolated from this tree.

Another momentous discovery lay hidden for centuries in a so-called Hindu superstition. The Ganges is the most sacred of all rivers to the Hindus. Millions of Hindus make annual pilgrimages to Benares to bathe in the Ganges. A small jug of water that is carried home from Benares is preserved for scores of years without spoilage. The Ganges water not only

washes all the sins, but it purifies anything that is impure. The water is used as a disinfectant in sprinkling on clothes of sick persons. Ancient sages have sung her praises as the holiest of waters.

Nearly thirty years ago, a French scientist from Pasteur Institute was invited by the Government of India to come and investigate the cholera epidemic at the time of pilgrimage in Benares. It was suspected that the holiest of waters might prove to be the dirtiest and the cause of this epidemic. The investigation, however, proved just the contrary, and the most remarkable discovery was made that the Ganges water was absolutely sterile. Even on inoculating a cubic centimetre of water with 5 to 6 thousand bacteria of different kinds such as those of typhoid, cholera, etc., the water showed zero count, *i.e.*, became sterile in about three hours. Only two or three years ago another French scientist, Dr. D'Herrele, who visited India, discovered what is now known as "bacteriophage" in the holiest of waters, the Ganges. The conception of holiness ascribed to Ganges by the Hindus has survived thousands of years and might have suggested a valuable discovery to an open-minded people years ago. Even here our arrogant attitude has postponed this discovery.

Ancient Wisdom.

Now what is true of these few instances is true of others in other lines. The Hindus knew centuries ago that heat, light and sound were essentially alike in their make-up. They knew that these were made up of waves and vibrations. It was known that the earth was hot and molten in its interior and was revolving together with its moon around the sun. Such discoveries are often brushed aside as pure imaginations of fertile brains of crafty *Brahmins*. *It is rarely realized that* imagination cannot be constructed apart from basic observations and facts. It is only a structure that has got to be erected on a foundation. It is due to mental activity from external stimuli. It is of the nature of which scientific mind is largely made.

Such discoveries presuppose their pre-requisites or necessary concomitants in an orderly world. Thought is continuous and follows a definite sequence. That is why a study of trigonometry requires and pre-supposes a certain knowledge of Arithmetic, Algebra and Geometry. According to this doctrine of pre-requisites, anybody of knowledge presupposes all its pre-requisite knowledge. Examined from this view-point Hindus would be found to have had many sciences to their credit.

The discovery of gunpowder has been universally ascribed to the Chinese. In view of the doctrine of pre-requisites, it is difficult to credit the Chinese with this discovery. The pre-requisites of gun-powder discovery are the discoveries of sulphur and saltpetre. History has not recorded who discovered these. But it is certain that China had neither sulphur nor saltpetre indigenous to the country in ancient times. On the other hand India has been known as the producer of sulphur and saltpetre in ancient times. Until recently the world knew only one saltpetre and that was Bengal saltpetre. Saltpetre and sulphur being essential constituents of gunpowder, people that are ignorant of them cannot *by any stretch of the imagination* be construed as discoveries of gunpowder. Thus the discovery of gunpowder must be credited to India and we have also evidence to this effect.

Distinction in Chemistry.

In Chemistry Hindus distinguished themselves in ancient times. They had developed metallurgy to a very fine point. They were the discoverers of steel and its tempering and had reputation as producers of Damascus Steel. They knew the art of making rustless or stainless iron and the largest wrought-iron pillar in the world, known as Kutub-Minar of Delhi, which is exposed to atmospheric conditions for 1,500 or more years, is a living testimony to the genius of Hindu art. The discovery of glass, dyes and dyeing caustic alkali and aqua-regia in potentra in India before their discovery anywhere else in the world, puts India as the foremost technically developed country of the ancient world.

Last year at the Convention of the American *Chemical Society held in Detroit I presented* a 'paper' showing evidences of the knowledge and discovery of gases such as hydrogen, oxygen and carbonic acid in ancient India. Without going into details it may be well to note here the novelty and significance of the ancient names of these gases. The Hindus called oxygen by the word "Prana", hydrogen by "Udana" and carbonic acid by "Apana".

Prana comes from Sanskrit Pra and Ana, the latter being the same root as occurs in words like animal, animate, etc. Thus Frana means essential to live or inhaled, breathed in gas. Thus it points unmistakably to oxygen a gas that is inhaled and is essential to live. In contrast compare Latin and German words

hich are neither significant nor point unmistakably to oxygen. The word Oxygen means oxygen-producing. Water and many oxides produce oxygen and so is denoted by the word. Sanerstoffe means that which produces sour taste or acidity. Neither acidity nor sour taste is exclusively produced by oxygen alone. Thus the German word also is not significant.

The word "Udana" means moving upwards, and consequently the lightest gas hydrogen. Both the Latin and German words "hydrogen and Wasserstoffe" mean the same thing, namely produced from water. Since, to produce water two gases, hydrogen and oxygen, are necessary. Latin and German terminology denotes either and consequently no definite significance is attached to them.

The word "Apana" means moving downwards or outwards and thus signifies a heavy or exhaled gas. The exhaled gas, a heavy gas, is carbonic acid gas. While the word 'carbonic acid gas' may denote the genetic connection of the gas to carbon, it tells neither its heaviness nor its unsuitability for breathing. It is an interesting commentary that the most scientifically gifted people of the West were not gifted enough to create significant and original terminology.

A passage from "Bhagvat Gita", the Bible of the Hindus, clearly shows that the Hindus not only knew these gases but understood their physiological action. The passage in question says "I reside in animal body in the form of animal heat or digestive energy and with the aid of Prana and Apana. I digest the four kinds of food." Think of the knowledge that is involved in this passage. It tells that oxygen and carbonic acid are involved in the process of digestion. This is quite in accord with modern science. The digestion means combustion of food and consequently requires oxygen. In the combustion of carbonaceous material carbonic acid is produced and accumulated. The removal of this gas is equally necessary to have complete digestion since it interferes with further action of oxygen. Thus the acid of these two gases in the digestion phenomenon is beautifully established.

Now one may well ask, why did India so well advanced in arts and sciences, retrogress? Why did she not continue her progress unto this day and show to the unbelieving West her marvellous capacity? The reason is not far to seek. We know that modern science is the result of co-operative development between various nations. Such co-operation is not possible unless the various nations of the world are brought together by easy communication and have their extreme differences made up. In ancient days India hemmed in by natural barrier not to speak of the lack of modern transportation facilities, worked alone in the field of arts and sciences, without having co-operation from other nations.

When the amount of knowledge began to grow in volume, she had no paper and printing to preserve this vast body of knowledge. Thus they were forced to shorten this body of knowledge. They invented a short-hand method of expression as no other country has known unto this day. All body of knowledge was expressed according to this short method and memorized. Material expounded in volumes of the size of Webster's unabridged Dictionary were condensed in booklets of a score of pages. Panini's grammar, for example, is thus condensed. Naturally in time, the condensed form of knowledge, though preserved, became unintelligible to posterity and consequently arrested the growth and progress of knowledge. Further, India had not the peace of mind to devote herself to the pursuit of knowledge for many a century, being constantly invaded by foreign nations and reduced to a subject nation. Thus for these reasons the growth and progress of Indian Science became retroverted. As a part verification of this theory, it is interesting to note that it took nearly 1500 years for England, France and Germany to develop their science to the state at which they had inherited it from Greece and Rome.

In the last session of the Bombay Legislative Council, the Government accepted the resolution moved by Dr. P. G. Solanki regarding the appointment of a Committee to enquire into the educational and economic condition and the grievances of the depressed classes (untouchables) and of the aboriginal tribes in the Presidency. They have accordingly appointed a Committee of ten for the purposes with Mr. O. H. B. Starte, I.C.S., as Chairman. The terms of reference to the Committee are:—To inquire into the educational, economic and social condition of the depressed classes (untouchables) and of the aboriginal tribes in the Presidency and to recommend measures for their uplift. The Chairman of the Committee will select a Secretary. The Committee was required to commence work from November 15, 1928, and submit its report within twelve months.

Notes from London.

The Trend of Events.

London, December 22.—The year 1928 now fast drawn to a close has not so far been marked by any event of outstanding importance in the business world, but its most significant feature has been the increasing tendency towards amalgamation and combination in industry. It seems only a short time since the idea of huge combinations with the object of restricting competition and securing economy in all directions was regarded almost universally as being inimical to the best interests of the nation. Now-a-days we are sometimes inclined to think that there is a danger that the pendulum may swing too far in the other direction—we have noticed how difficult some printers and other people find it to distinguish between rationalization and nationalization—but conditions have entirely changed during comparatively recent years, and in many industries the only chance of meeting foreign competition lies in conducting operations on the widest possible scale.

Derating.

The Local Government Bill continues to make slow but satisfactory progress in the House of Commons, and by the time Parliament adjourned for the Christmas recess the first 53 clauses of the Bill had been disposed of. When members return in January there will be some difficult fences to negotiate, among them the amendment, which has met with a certain amount of support from Conservative members, which urges that all breweries, distilleries, and tobacco factories should be placed outside the scope of the derating scheme. At present, at any rate, the Government is unwilling to make any alteration of this sweeping character, and it is pointed out that the distilleries are often producing material which is of great importance to industry.

Concessions.

A good deal of credit for the smooth progress of the Bill is due to the obvious willingness of Mr. Chamberlain, the Minister of Health, to make concessions where a real hardship or anomaly can be proved. He showed this in his discussions at the beginning of the week with the representatives of the county councils and the Municipal corporations, when he agreed to make a number of valuable concessions. At present the scheme provides that county districts shall be guaranteed for one year against any increase in rate poundage as a result of the scheme, and Mr. Chamberlain has now agreed to increase that period. He has also agreed to extend for a longer period than originally contemplated the time during which the counties and county boroughs are guaranteed a gain of not less than one shilling a head of the population. This period was fixed at first at five years, and the Minister of Health's willingness to be more generous has created an excellent impression.

Rating on Mineral Railways.

The special committee of the Association of British Chambers of Commerce, in considering the Local Government Bill, has passed the following resolution with respect to the position of private mineral railways:—"This committee on the Local Government Bill, having received representations from chambers with respect to the position of the private mineral railways in relation to the above Bill, is of the opinion that such railways should be placed in the same position as the public railways with respect to the freights relief to be granted to them. The committee is of the opinion that representations should at once be made to the President of the Board of Trade and to the Minister of Health urging that the necessary amendments in the Bill now before Parliament should be made to carry this proposal into effect."

Government's Exhibition Policy.

Some of the Conservative members of the House of Commons are endeavouring to induce the Government to relax the stern attitude which it has taken up with regard to the Barcelona Exhibition. Mr. Douglas Hacking, the Secretary of the Overseas Trade Department, has intimated that, in view of the Department's other commitments in connection with the organization of exhibitions and in view of the financial situation, the Government has felt unable to accept the invitation of the Spanish Government to participate officially in the Barcelona Exhibition. Close touch has, however, been maintained with the British Chamber of Commerce in Spain and full information has been provided as to the British firms which are likely to be interested. Publicity has been given to the Exhibition, and information and literature have been distributed to prospective British

exhibitors. But Mr. Hacking declines to hold out any hope of a reversal of Government policy.

SAFEGUARDING FOR WOOL TEXTILES.

Free importers are watching with growing anxiety the manifestations of a changing attitude on the part of textile workers in the West Riding in regard to safeguarding. It is not very difficult to persuade a worker in receipt of a comfortable wage and regular employment that he benefits from low prices in the home market whether they are brought about by foreign imports or not: it is quite another matter to convince men who are thrown out of work by depressed trade resulting from undercutting by ill-paid foreigners that it is advantageous to import sweated goods that are taking the place of those that might be made here. An early application to the Board of Trade for a safeguarding duty for wool textiles seems certain to be made, but we very much doubt whether anything will be done during the life of the present Parliament.

TRADE STATISTICS.

The International Conference on economic statistics will have done very useful work if in future the principal nations publish their trade statistics in such a way that they are comparable, for only those who have to handle the trade returns of many countries have any conception of the difficulties of getting a comparable basis. Happily there has been a marked change in the attitude of the more enlightened section of the business world towards statistical returns in recent years, but even to-day it is extraordinary how many people honestly labour under the delusion that figures can be made to prove anything. What is actually true is that unless accurate figures are scientifically handled they cannot be held responsible for the misinterpretation put upon them by ignorant or dishonest persons, while many well-meaning people are misled through insufficient acquaintance with the pitfalls that beset the path of the most careful statistician.

Canadian Trade and Finance.

Canadian Exports and World Trade.

November 30, 1928.—In few large countries in the world is there as great reason for interest in foreign business conditions as in Canada where about 20% of the net income of the whole people is derived from exports. According to the most recent estimate of the Dominion Bureau of Statistics for instance, the net income of Canadians during 1925 amounted to $1,800 million and the value of exports in that year was $1,000 million. Though it is recognized that exporters of wheat, flour, paper, lumber, fish, meats and metals must keep themselves familiar with conditions in the markets for these commodities in all countries, few realize the large proportion of the Canadian people whose income is directly or indirectly affected by changing conditions abroad.

The enquiries from the Maritimes as to the size of the catch in Scandinavian countries or as to the activity of demand for fish in the West Indies reflects interest in the return the fisherman will receive for his season's catch. The frequent question as to the extent to which newspaper circulation was affected by the recent election in the United States shows how closely the factors which concern demand for newsprint are being watched. The statement that the recent decline in United States imports of copper from Africa was due to increased European consumption rather than to an over-supply from other sources is of interest throughout the mining regions of Ontario, Quebec and British Columbia. The size of the Argentine wheat crop, the price of bacon in London and the amount of lumber which will be required for new construction in Australia and Japan are each factors of moment in the corresponding parts of Canada. For most Canadian producers, the year's profits are largely determined by the prices and conditions which prevail in world markets.

Although it is evident that business-men are accustomed to giving careful consideration to all those influences which they regarded as important in their effect upon the price of the commodity in which they are most interested, there is a tendency to forget that world buying power has a predominant weight in determining the total demand for Canadian products. Between 1922 and 1926 there was an increase of 78% in Canadian exports. Each of the intervening years witnessed a substantial increase in the value of Canadian goods sold abroad. In 1922, the value of Canadian exports amounted to $740,000,000 and in 1926, to $1,315,000,000. In the next two

years the value of exports declined $6\frac{1}{2}\%$. The total value of exports for the fiscal year ending March 1, 1927, amounted to only $1,252,000,000, *and in 1928, to $1,228 000 000.*

Quite aside from the steady rise in the value of total exports from 1922 through 1926 and the subsequent decline in 1927 and 1928, *there has been a corresponding rise and fall* in the value of a large number of individual Canadian exports. It cannot be considered entirely a coincidence that substantially more wheat, flour, meat, fish, manufactured and unmanufactured wood, vehicles, metals and metal products were exported in 1926 than in 1922. This is usually explained by the rapid expansion which took place in Canada during this interval. But in spite of the subsequent continued expansion in Canada the value of the exports of each of these commodities declined in 1927 and there was a further decline in the fiscal year ending March 1, 1928. These commodities are representative of a wide variety of Canadian economic activities.

Miscellaneous Canadian Exports.

	1928	1927	1926	1922
Fish ..	33,519	34,499	36,531	2 .380
Meats ..	24,472	29,408	37,112	29,826
Wheat ..	3,53,117	3,53,094	3,64,365	1,79,991
Flour ..	59,897	68,720	69,688	53,478
Wood, unmanufactured	99,371	1,07,855	1,15,530	71,505
Wood, manufactured	49,148	52,014	52,073	38,264
Total metals and metal Products	1,53,594	1,54,929	1,72,211	56,197
Vehicles ..	27,919	36,816	43,180	7,629

The rise in the value of these exports between 1922 and 1926, besides representing an expansion in Canadian productive capacity, was also indicative of a change in world buying power. In our opinion the subsequent decline *in the value of these exports may be attributed* to a temporary decline in that buying power rather than to decreased productive capacity in Canada. While it is obvious that world *buying power could not have prevented a* crop failure in Western Canada nor have increased greatly the size of the catch in the Maritimes, yet, through price, foreign buying capacity was a tremendous influence on the total value of the annual exports of the country.

Under these circumstances, an understanding of the influence which restricted *world buying power during the past two years,* and an estimate of the general trend of that buying power in the near future, may be elements of value in establishing quotas for production and export in the next few years.

THE CYCLE OF POST-WAR RECONSTRUCTION

The increase in world buying power between 1922 and 1926 was a concomitant of the re-establishment of the world trade. *The growth* in volume of world business during European reconstruction was similar to the increase in business activity in a city which is being re built *after a great fire or earthquake. Immediately* after such a disaster, there will be a few days of dis-organization when business comes to a complete standstill. This is fol*lowed by a minor resumption* of trade while relief is being organized. In the subsequent period of reconstruction, while factories, warehouses, roads and residences are being rushed to completion, there is a great business activity. At this time there is not much unemployment as an unusual number of people are engaged in construction. After reconstruction there is a lull in business while the workers are settling back to their old occupations and employers are organizing manufacturing and re-establishing contacts with their old markets. The final phase of this cycle is one of sound prosperity when labour and capital are able to take full advantage of the new factories, new machinery and other more modern facilities with which the old have been replaced.

By 1926, most of Europe had passed through the phase of reconstruction and in 1927 and 1928, Europe was in the midst of that lull in activity incidental to finding employment for the labour and capital just recently released from reconstruction. It takes time to re-establish trade relationships and to find markets across new political boundaries, when hindered by uneconomically high tariffs.

Naturally the statistics of employment, construction, production and trade have not shown the rapid improvement during the past two years that was characteristic of 1922—26. Those who have lived through lesser disasters have observed that the final re-adjustment precedes a period of unprecedented prosperity. It is no less probable that world business will experience a corresponding growth when society is able to take full ad*vantage of the changed conditions and new* inventions of the post-war period. Those who predict the decline of Europe and the decay of Western civilization under-estimate the recupe*rative capacity of industrial society. They fail* to realize that the largest part of the rebuilding process is already completed and that the present apparent decline is merely a pause before a period of new and greater growth. An

amination of the present economic situation ·ms to show that the basic financial and ·dustrial structure has been so deflated, tabilized and reconstructed that optimism as o the future is justified by present conditions.

THE NEW ECONOMIC REVOLUTION.

A study of natural resources and productive capacity does not show an acute shortage , any resource necessary to permit a general ncrease in production. There is no general lack of land, labour, or capital—the elements necessary for balanced improvement. New inventions, chemical discoveries and improved facilities for transportation and communication have prepared the way for a new period of rapid world-wide development. In a speech in November, 1928, Premier Stanley Baldwin heralds the new industrial revolution as likely to have even more portentous results than those which followed the classic industrial revolution of one hundred and fifty years ago, when machinery was introduced in industry.

At the time of the first industrial revolution, the world appeared to lack sufficient resources to support the existing population. Theorists advanced the suggestion that starvation and war were necessary as checks on multiplying populations. In strange contrast with the deficit which worried the people of the eighteenth century appears the spectre of over-production in the twentieth century.

In agriculture there is real or potential over-production of sugar, rubber, wheat, potatoes, fruit and many other vegetable products Relatively, and perhaps absolutely, fewer armers are producing increasing quantities of food and other agricultural products. With he increasing ubiquity of the automobile, he fields which produced the world's fodder are being put to other uses. There is no shortage of land—in fact, there are a number of ountries in which relatively less favourable ands are being abandoned. There were fewer arms in Canada in 1926 than in 1921, but this decreased number of farms represented a greater area of improved and cropped land and a vast increase in potential production.

Machinery, advancement in chemical technique, improved methods and newly discovered esources are changing the complexion of the mining situation. Mineral resources are sufficiently plentiful so that the abandonment of ess efficient mines is a more pressing problem han the discovery of new sources. There must be a tremendous increase in world demand for coal, for instance, or the less efficient mines of Great Britain and the United States must be abandoned

The substitution of metals for wood and lumber in construction, in the manufacture of furniture and for other purposes, has so far reduced the demand for wood that a lumber famine has been indefinitely postponed It is not lack of forest products which is preventing a general increase in production and consumption

There is no general shortage of labour or of manufacturing capacity. England, Italy and Belgium have a larger population than is required by their present industries It seems probable that Germany will be soon confronted by a like situation. These countries, with their large and efficient manufacturing plants, are finding difficulty in producing commodities which may be exchanged for the needed food.

With surplus lands in Canada, Africa, Australia and South America, with excess factory capacity in England, Belgium, Holland, Germany and the United States, and unemployed workers in England, Belgium, India and China, it seems obvious that increased production is a matter of mutual adjustment. While the movement of surplus population to countries which have surplus lands may improve the situation, the fact that there is an oversupply of many agricultural products indicates that this migration would not solve the problem as a whole. With hundreds of thousands of willing workers lacking food, clothing and proper housing it is futile to give serious consideration to the danger of general over-production.

Means will be found to permit the unemployed workers of England, Germany and Belgium to supply more of the wants of the farmers of Africa, Australia and South America, and in turn to supply these workers with the excess food which may be procured from these areas. It is not difficult to visualize the increased wants of remote communities with their present improved means for communicating with the outside world ·Even the cinema is playing no small part in increasing the wants of the rural community. Such rural communities have the capacity to furnish far greater supplies of food and other raw materials than they do at present. Such evidence of increased wants and potential productive power would tend to indicate the possibilities in the direction of greatly increased world trade. The future demands for the products of Canada, Africa, Australia and South America on the one hand and for those of Europe,

India and China on the other are likely to create a volume of world commerce which will surpass anything which has yet been known. The whole world stands on the verge of that period of sound prosperity which follows catastrophe and reconstruction.

TARIFF BARRIERS.

That Austria, which is now little more than a city state, should have no close economic relationship with any large agricultural community with whom she may exchange manufactured products for raw materials, makes readjustment in that area particularly difficult. The high tariff wall and the lack of sound economy in Russia prevents that great country from supplying raw materials to pay for manufactured products. European countries have raised such high tariff barriers against their neighbours that these tariffs now constitute the most formidable single obstacle to the resumption of a normal volume of international trade. The creation of small manufacturing industries in a large number of European countries has so limited the size of the market that in many industries most of the advantages of large-scale production have been lost. Moreover, the spread of this same nationalistic viewpoint to India, Japan, South America and China is raising barriers which are preventing both new and old industries from attaining reasonable efficiency. As yet, there is little evidence of more than theoretical recognition that international co-operation in mutual tariff concessions is a *sine qua non* of the efficient readjustment which will make for world prosperity.

The influence which will make such co-operation possible is the need for increased sales. Even though there were no other basis for interest in the subject in Canada the fact that an increase in the value of Canadian exports requires a corresponding growth in world purchasing power will eventually make world business conditions a matter of prime importance to Canadian farmers and business-men. The same motive is present in other countries and forms the only possible basis for international compromise. Local pride and bitter nationalism will give way before the need for increased markets. To attain this end, industrial and commercial leadership must play a larger and more far-sighted part in the formation of national policies.

The day is not at hand when philosophers shall be kings. It may be many years before nations fully realize that the value of their exports is largely determined by the value of their imports, but remarkable progress has been made in this direction in the past few years. Former enemy countries are trading with each other on increasingly favourable terms. France and Germany have made remarkable tariff concessions to each other. Adjustments of this character are becoming more common. The improvement in international trade relationships in other parts of the world means increased buying power and increased buying power means a greater demand for Canadian products. Although the period of readjustment has brought a temporary recession in Canadian exports, there is evidence that this recession is only temporary and that the next few years will present steadily increasing opportunity for Canadians to sell their products to all parts of the world.

South Africa's determination to supply her own needs in regard to timber and eventually to enter the world's markets is indicated by the Government's action in establishing a timber experimental station at Pretoria West. This station, which is to be on the lines of similar institutions in Europe and America, will be completed in six months. The main object of the station will be to discover means of converting local timber into suitable products for the market and to prove to private concerns that South African wood is entirely satisfactory for the Union's requirements. In this way it is hoped to encourage extensive afforestation in the country, which has conditions second to none in the world. At present 95 per cent of the timber used in South Africa is imported.

Because of the present unsatisfactory conditions in the newsprint paper industry some of the mills in Canada have been turning newsprint machines to the manufacture of other grades of paper. Competition in the other branches of the paper industry is likely to be somewhat intensified as a result, and it seems likely that one effect will be to enlarge the range of paper products manufactured in Canada somewhat earlier than would have been the case otherwise. A pulp and paper school has been organized at Edmundston, N.B., under the auspices of the Provincial Government and with the co-operation of the pulp and paper industry. This is the second school of its kind to be established in Canada, the first being at Three Rivers, Que.

Economic Notes.

The Improvement of Indian Wheat.

The Agricultural Research Institute, Pusa, has issued a Bulletin (No. 171 of 1927) on the Improvement of Indian Wheat, by Albert Howard, C.I.E., M.A., Director of the Institute of Plant Industry, Indore, and Agricultural Adviser to States in Central India (formerly Imperial Economic Botanist, Agricultural Research Institute, Pusa), and Gabrielle L. C. Howard, M.A., Second Imperial Economic Botanist (on deputation to the Institute of Plant Industry, Indore). The Bulletin, which contains a brief summary of the investigations carried out at Pusa from 1905 to 1924 including an account of the new Pusa hybrids, states that among the wheats provided by the Botanical Section of the Pusa Institute, Pusa 4, Pusa 12, Pusa 52, Pusa 54 and Pusa 100 are now widely cultivated in India. Pusa 4 is being grown in the North-West Frontier Province, in Bundelkhand, Gujarat and parts of Burma. Pusa 12 has been adopted by the United Provinces for distribution all over the alluvium. It is also doing well in Sind, parts of the Eastern Punjab and Bihar. Pusa 52 is likely to cover very large tracts of North Bihar and the Eastern Districts of the United Provinces. Pusa 54 is being distributed in parts of the United Provinces where a bearded wheat is essential. Pusa 100 is being widely grown in the Central Provinces. Punjab 11 in 1923 covered 750,000 acres in the Canal Colonies of the Punjab. The Bulletin adds that it is very difficult to state the total area under these wheats, but that at a conservative estimate it cannot be less than 2,500,000 acres. The annual profit to the grower, at fifteen rupees an acre, amounts to £2,500,000 sterling a year.

Silage.

A survey has been made by the Madras Agricultural Department of the Salem-Coimbatore Circle with the object of finding out what materials are available for the preparation of silage. It is found that during the rains in places where there is a good growth of grass and other suitable materials the cultivators graze their stock. At a distance from the grazing areas the cost of transport of suitable materials would offset any economic advantage likely to be obtained from making silage. We are, therefore, forced to consider what materials can be grown by the ryots for conversion into silage against the hot weather months. Ragi straw appears to be the most likely material and experiments will be tried with this as well as [illegible] and *cholam* straw. The value of these materials would probably be enhanced if they could be mixed with some leguminous material. This might be supplied by a cutting of sannhemp, and then allowing it to make secondary growth for green manure purposes. This tends to reduce soil fertility to some extent which makes it all the more necessary to improve the methods of conservation of farmyard manure and urine in order that this may be again returned to the land.

An experiment has been tried at Idugari of making silage out of ragi straw after the ear heads have been harvested. A pit was laid down two months ago and when opened and fed to the cattle they ate it readily and their milk yield was maintained, whereas when fed on dry fodder it decreased. A similar pit which had been laid down for 1½ months was opened at Peelamedu and it was fed to 30 head of cattle of all ages and all but one ate it readily though none had ever seen silage before. There will be no difficulty in getting cattle to eat silage if it is properly made.

In these experiments only small pits were made, about four or five feet wide. This leads to a rather high percentage of waste which could be reduced by making a bigger pit. The question resolves itself into finding the most satisfactory size of pit to feed a given number of animals since silage will not keep once it is opened and exposed to the air. About ten to twelve head of stock would make the smallest satisfactory unit for which silage could be economically made.

Ongole Cattle Survey.

Following the decision of the Madras Government in 1924 to prohibit the export of Ongole or Nellore cattle from Madras ports, which was brought about by the public opinion that continued export of the best cattle was causing deterioration in the breed, arose a desire to know how far the deterioration in the breed had gone on and what steps could be taken to arrest it. The Livestock section of the Madras Agricultural Department undertook a survey of the breeding tracts to collect information on this point and work has been going on for the past two years as men have become available. Up to date the taluks of Ongole Bapatla and Narasaraopet have been surveyed and Guntur is almost finished. Every village and hamlet

has been visited and the pure Ongole cattle counted and examined, and the opinion of the cattle-owners obtained. Methods of feeding and management have also been reported. The taluk of Palnad will be taken up next.

The following figures are of interest :—

Taluk	Number of pure Ongole cows	Number of breeding bulls	Number of cows per bull	Average frequency of calving	Average age at which heifers calve
Ongole ..	16,200	97	170	One calf in two years	4½ to 5½ years
Bapatla ..	10,187	104	100	Do.	Do.
Narasaraopet ..	13,248	135	[illegible]	2 to 2½ years	4½ to 6 years

The selection of the Brahmini breeding bull is now-a-days much less carefully done than formerly and the practice of permitting him to *feed where he will often be objected to.* If this custom tends to grow less, some substitute will be necessary.

The ryots in all cases ask for assistance in providing water in the dry season, in obtaining fodder in years of low rainfall and in grazing their cattle in the forests. The tribe of Lambanis have always made their living by the latter work, but they are now universally accused of being dishonest and losses in cattle entrusted to them are growing heavier.

The general impression gained is that there is a distinct lessening of the interest taken in cattle-breeding. *In scarcely any case was it* found the primary interest of the ryots. The reasons appear to be mainly that money crops, such as tobacco, pay better than crops yielding a straw for cattle or fodder crops and grazing especially for cattle rearing: that the revision of assessment of land whereby land left for grazing "*Badavalu*" which used to be free of tax was assessed with the rest, caused less land to be left for grazing, that Government poramboke, etc., is slowly being reduced in area *by* settlement of military pensioners *and* the depressed classes; that a natural increase of population is causing more and more land to be cultivated with a consequent reduction in the grazing area available. All these factors really affect grazing mostly and the position now is that the grazing is growing less and less but the alternative of a rotation including fodder provision for cattle has not yet grown up to a sufficient extent. Cows and heifers are certainly suffering from shortage of food.

The enquiry continues. When completed there will be material on which to base ration to improve the conditions under which this breed of cattle, of which Madras Presidency is justly proud, has to live and breed.

AGRICULTURAL RESEARCH IN BURMA.

The following is an extract from the review of the Report on the operations of the Department of Agriculture, Burma, for the year ended the 30th June, 1927 :—There seems to be no doubt that the experiments of the Department in combination with other favourable conditions have quickened up the progress of agricultural improvement. The Department distributed new varieties of Scotch potato seed from its farm at Yawnghwe in the Shan States, which had produced potatoes of high excellence, and the railway having been extended about the same time to Heho on the Shan plateau, where the soil is suitable for these potatoes, the export of Shan States potatoes *increased, it is reported, from Rs. 2 lakhs in* 1914 to Rs. 23 lakhs in 1924. Groundnuts had long been grown for local consumption and the cultivation suddenly expanded some years ago when the first cotton ginneries were erected at Myingan and Allanmyo, because it was found that the oil-pressing machinery for cotton seed *could* press oil from groundnuts as well. The Department assisted by distributing large quantities of groundnut seed especially in the years 1907 to 1910, and by propaganda in favour of sowing this crop in rows with inter-cultivation, a method which has now superseded the less efficient method of broadcasting. The Department is justified in taking credit also for the extension of upright varieties of groundnuts to tracts where the soil was unsuited to the prostrate variety; and can thus claim an important part in the very great improvement of agriculture in the dry zone which has been produced by extension of the cultivation of groundnuts. The revival and extension of gram cultivation resulting from the introduction of wilt-resisting strains in 1921 seem to be another well-founded claim. This, according to an opinion recorded by Mr. McKerral, "is certainly the Department's most " complete achievement up-to-date, but is not the most important. More important in its scope is the work directed to improving the quality and purity of paddy seed which is now beginning to achieve success in enabling cultivators to obtain increased prices for their paddy. The keenness of the demand for these improvements which the Department has been able to find or to create among cultivators is evidence of the profitableness of these improvements.

There appears to be at length some hope of

uccessful results from the prolonged endeavours of the Department to find an artificial manure for paddy cultivation which is profitable and suitable for general use. As regards beans, the researches of the Department, which have been carried on for several years, go to prove that no variety of the species *Phaseolus lunatus* can ever be found which is free from Prussic acid. But there is no proof that anybody has ever been poisoned by eating *pewtagale*: and the Prussic acid bogey, which is believed to have been raised by people interested in the trade in beans from other countries, seems to have been laid. Millet is another of the principal crops of the country and the success reported in preventing rust in one of the main varieties of this crop is an important event.

RIGHT OF ADOPTION BY HINDU WIDOWS.

At the last session of the Bombay Legislative Council leave was granted to Mr. B. V. Jadhav, M.L.C., to introduce a Bill to restrict the unlimited right of adoption of Hindu widows in the Bombay Presidency. The Bill provides that adoption by a Hindu widow shall not be valid except when she is authorized in writing duly registered by her husband or his father to adopt one or more sons, or when there is no male agnate (Sagotra Sapinda) descendant of the great-grandfather of her husband. The purpose of this proposed legislation is explained in the Statement of Objects and Reasons which is as follows:—"*Adoption of a son is recognized by Hindu* Law throughout India. A Hindu without male issue may adopt a son at any time and his widow can also adopt for him after his death. But this right of the widow is restricted with various conditions in different provinces. In Bengal she cannot adopt unless she is authorized to adopt by her husband in writing. In Madras and the United Provinces she can adopt if authorized by the husband or by the consent of the nearest agnates. In Bombay she has great latitude. A husband's authority is presumed in the absence of prohibition and she can adopt even a grown-up man from any family to the exclusion of the next of kin of her husband. This latitude is causing great injustice to the Bhaubands whose rightful property goes to another and a stranger is introduced into the family house and property simply on account of the whims of an inexperienced young and, many a time, misguided widow. This leads to quarrels and litigation. Such an adoption is brought about by interested persons and the widow is utterly ruined as she is deprived of the enjoyment of her husband's property and becomes entitled to maintenance only. The right of adoption ought therefore to be restricted and the Law of Bombay should be made conformable to that prevalent in other parts of India." The Bill has been published in the Bombay *Government Gazette*: Part V, of April 16 and those who are interested in this piece of legislation must submit their views to the Secretary to Government, Home Department, Bombay, as early as possible.

FEES FOR ELECTRICAL SERVICE.

The Government of Bombay have recently revised the rules for the levy of fees for the services of Electrical Inspectors, etc. These rules supersede those published in the Bombay *Government Gazette*, Part I, of 18th November 1926. The revised rules contain several modifications chiefly in respect of fees levied for the services of Inspectors. Thus, for inspection, examination or test in cases where energy is supplied at high and medium pressure, the maximum rates have been considerably reduced. While for 1 to 150 kilowatts the scale of fees ranges from Re. 1 to Rs. 30, the rate for above 150 kilowatts up to 1,000 kilowatts is fixed at Rs 10 for each 50 kilowatts and above 1,000 kilowatts only Rs. 250 are charged instead of Rs. 350 charged under the old rules. For the inspection, examination or test of any generating station, the minimum rate is Rs. 20 for 1 to 50 kilowatts while the fees for installations above 1,000 kilowatts is Rs. 300, reducing thus the maximum rate by Rs. 200. For the inspection, examination or test of electrical installation in any factory within the meaning of the Indian Factories Act, the rates now laid down are comparatively low. In place of a fixed fee of Rs. 100 the new rules provide a graduated scale of Rs. 10 per kilowatt or part thereof provided the maximum charge does not exceed Rs. 100. Provision is made for testing of disputed energy meters, the scale rising from Rs. 10 for testing a single meter of any description in the laboratory up to 50 amperes capacity to Rs. 25 for above 500 amperes. Provision is also made in the revised rules for default of payment of fees levied under these orders. If, for any reason, the owner of the installation fails to pay the prescribed fees at the time of inspection, he will be responsible for making the payment at the office of the Electrical Inspector within ten days from the date of inspection. Failure to do so will render the owner of the installation liable to action under Section 54 of

the Indian Electricity Act, 1910, in accordance with which the fee may be recovered on application to a Magistrate by the distress and sale of any moveable property belonging to him. The revised rules will be found in the Bombay *Government Gazette*, Part I. of April 5.

Topics in the Journals.

Indian Banking.

Mr. E. H. Brown writes :—

The last 15 months will stand out in the history of Indian banking for two reasons—the statutory stabilization of rupee exchange at 1*s.* 6*d.*, with effect from April 1, 1927, and the failure of the Legislative Assembly, nearly a year later, to accept the corollaries of that measure recommended by the Royal Commission on Indian Finance and Currency.

The long-continued conflict over the Reserve Bank Bill ranged round the question whether or not the directorate should be independent of the Government and of the Legislature, in accordance with the recommendations of the Commission. Sir Basil Blackett, in his eagerness to round off his memorable tenure of the Finance Membership by providing India with a central bank to be the currency authority in place of Government, yielded on the principle of independent management to the extent of agreeing to a compromise which would have transformed the proposed shareholders' bank into a so-called stock-holders' bank, though the holders of stock would have had no real stake in the sound management of the concern. The scheme did not secure the acquiescence of the Secretary of State for India ; the Bill was not further proceeded with in the autumn session ; and Sir Basil Blackett came home for personal discussion with the authorities of the India Office.

The resulting new Bill provided for a shareholders' bank on the basis of provincial allocation of capital and a limitation of individual holdings. The object of these changes was to meet some not unreasonable criticisms of the original scheme which suggested that the issue of shares without provincial allotment or other restriction might lead to domination by sectional interests, and notably those of the big Bombay financiers.

Wrecking Tactics.

When the Bill was brought forward at the spring session of the Legislative Assembly it was disallowed by the President on the ground that the original Bill had not been definitely disposed of. The difficult task of amending the original Bill to bring it into line with the new schemes was then attempted, and was made still more difficult by the unfavourable political atmosphere following on the appointment of the Simon Commission. A wrecking amendment was passed by a small majority, and Government decided to drop the Bill. The speeches made thereafter showed a widespread recognition that one of the most important constructive measures ever submitted to a legislative body in India had been thoughtlessly rejected partly at least on extraneous grounds.

The result is that Government continues to be the currency authority, and India is without the financial *swaraj* which she was understood to be anxious to secure. The interim measures proposed by the Royal Commission to provide a scientific gold exchange standard will be continued indefinitely and the experience of the last 15 months points to their adequacy in maintaining stable exchange. Sir George Schuster, the new Finance Member, assumed charge in the autumn. He will require time to take his bearings and is unlikely to raise afresh for a considerable time to come the project of a central bank to be the currency authority.

The failure of the Reserve Bank Bill carried the sequel of the dropping of the measure to give validity to a provisional agreement made with the Imperial Bank of India for the revision of its charter. The agreement was generous in scope, and rightly so, in view of the abandonment of the intention that the Imperial Bank should ultimately have charge of the paper currency. The institution will continue under the charter which has effect for ten years from the date of its constitution, January 27, 1921, or for an indefinite period of 12 months' notice of termination of agreement is not given on either side.

A feature of the year was the relative failure of the 4 per cent rupee loan issued in July at Rs. 94½, repayable in 1934-37 at par. Sir Basil Blackett had been so uniformly successful in continuous reductions of the cost of borrowing that he was tempted to try again. The terms gave little or no advantage over holders of existing debt, and consequently the subscriptions in cash and bonds amounted to only Rs. 19.40 crores. Subsequently Government found it necessary to resort to external borrowing, after an interval of four years. A sterling loan of £7,500,000 at 4½ per cent, issued on January 16, met with a ready response.

Seasonal Demands.

Money has been in steady demand through the greater part of the period under review. The Bank rate, raised to 7 per cent on December 7, has continued at that figure to a much later date than last summer, when a reduction to 6 per cent was made at the beginning of June. The tendency is for the seasonal periods of demand to be less definitely fixed than in the old days, when they were like the monsoon in their regularity. One of the causes of the prolongation of high rates has been the holding up of funds employed to finance the moving of the cotton crop and also of stocks of cloth. Trade has suffered from the depression in the Bombay mill industry—followed by the long continued strike—and there have been minor failures in the banking world.

There has been talk of an investigation into banking in India, and the Chambers of Commerce, both European and Indian, have supported the proposal, as calculated to lead to banking expansion and to the better regulation of Indian banks. The proposal has reference to joint stock enterprise only, and not to the system of *hundis* issued by Indian *shroffs*, which play so large a part in the internal trade. An Institute of Indian Banking has been established under the auspices of the Imperial Bank and should render good service as time goes on.

The extension of banking in India is confronted with difficulties of which there is little conception in Great Britain. The vast mass of the people are illiterate and their habits are uneconomic. To hoard

nty savings or to keep reserves in the form of gold silver ornaments for their womenfolk seems prefer to in their eyes to having paper transactions with the nks. The rate of wealth per capita is very much wer than in the countries of Western Europe.

The last statistical return of banks in India relates the year 1925. It gives the capital, reserve, and posits of the Imperial Bank of India, of the exchange nks (deposits in India only), and of the Indian joint ck banks. In round figures the capital and reserve 1925 reached Rs. 160 crores' as compared with 8 crores ten years earlier. The deposits were Rs. 211 crores as against Rs. 113 crores in 1916. It ould be noted, however, that in the boom years 1920 nd 1921 the deposits were higher, being Rs. 235 ores and Rs. 227 crores. Clearing-house returns ow a fall in the activity of banking operations as mpared with 1920. The cheques cleared were then a total value of Rs. 3,149 crores. They dropped in e following years to Rs. 2,021 crores and in 1925 re down to Rs. 1,769 crores. In the Pre-War ear, however, the total was only Rs. 650 crores. The pansion since that date has been substantial though commensurate with the possibilities.

The co-operative credit banks are making some progress, but while of decided value in providing rural credit do not as yet play an important part in Indian finance.

Problem of Indian Education.

The following questionnaire has been issued by the Education Committee of the Indian Statutory Commission. All persons and Associations interested in the subject-matter of the questionnaire are invited to send replies (in the form printed in the note to the questionnaire) to the Secretary of the Education Committee of the Indian Statutory Commission, Government of India, Simla :—

1. Do you consider that the growth of education during the last 10 years in the part or parts of India with which you are personally acquainted has been satisfactory ?

The subject should be dealt with under the following headings : -

(*a*) Primary education.
(*b*) Secondary education.
(*c*) University education.
(*d*) The training of teachers.
(*e*) Technical (including Commercial) education.
(*f*) Girls' and women's education.

But you are requested only to deal with those branches with which you have personal acquaintance.

2. If your answer to question 1 is in the negative, please state the reasons which in your opinion have led to an unsatisfactory result classifying them under the headings :—

(1) Administrative,
(2) Educational.
(3) Social.
(4) Financial.

and indicate concisely on what lines improvements should be made in each branch with which you deal.

3. You are invited after dealing with questions 1 and 2 above to submit separate memoranda on any of the subjects enumerated below :—

(1) The application of compulsion in primary education.

(2) Moral and Religious instructions and Character training.

(3) Education of the following special classes :—
(*a*) Muhammadans, (*b*) Sikhs, (*c*) Europeans and Anglo-Indians, (*d*) Depressed classes, (*e*) Hindus in those provinces in which Hindus present special problems.

You are requested only to deal with those subjects with which you have personal acquaintance.

4. You are invited to submit separate memoranda on any new departures or experiments with which you are personally acquainted in :

(*a*) Primary, and especially, village education.
(*b*) Secondary education.
(*c*) University education.
(*d*) The education of girls and women.
(*e*) The training of boy scouts and girl guides
(*f*) Physical training generally.
(*g*) Medical inspection and treatment of school children.
(*h*) The teaching of hygiene.
(*i*) The use of popular libraries including travelling libraries.
(*j*) Educational broadcasting.
(*k*) Night and continuation schools for children.
(*l*) Adult education (including popular lectures and University extension work).
(*m*) Technical education (i) for manual workers, including foremen, and (ii) higher.
(*n*) Educational work by Co-operative Societies.
(*o*) Education for social service.

NOTE.—The question of agricultural education has been dealt with recently by the Royal Commission on Agriculture, and it will be unnecessary to re-submit evidence given before that Commission.

5. You are invited to submit memoranda on any points which you regard as of importance for the growth of education of which you have a personal knowledge, and which are not covered by the headings given below.

Note on answers to the questionnaire of the Auxiliary Committee on the growth of education of the Indian Statutory Commission, and on memoranda to be submitted to the Committee.

In submitting answers to the questionnaire and memoranda, contributors are requested to comply as far as possible with the following directions :—

1. To append to the first sheet a statement in the form printed below duly filled up.

2. To submit the answers or memoranda either in type-script or clearly written on ruled foolscap paper before August the 22nd.

3. To conclude the answers and memoranda by a summary of the principal points and recommendations, if any.

Form.—(To be used as the first sheet of answers to the questionnaire and memoranda submitted to the Auxiliary Committee on the growth of education of the Indian Statutory Commission.)

(1) Name of author followed by degrees or other University distinctions, and name of University at which they have been obtained. The name should be written in block capitals.

(2) Present official or other position.

(3) Postal address for the purpose of acknowledgment.

(4) Selection of questionnaire to which answers are submitted and titles of any memoranda submitted under No. 5 of questionnaire.

(5) Statement of experience on which the answers or memoranda are based.

(6) Signature.

(7) Date.

Economics of Khaddar.

In an article entitled "Economics of Khaddar", Mr. M. S. Bhungara, President, the Indian Textile Association, President, All-India Free Trade League, Member, the Textile Institute, Manchester, and Mill Manager and Consultant, writes in the *Capital*:—

To be able to understand the "Economics of Khaddar" one must be thoroughly acquainted with the rural life of India. The number of her rural population, their occupation, their grinding poverty, their income per capita, average per capita consumption of cloth and their want of occupation during a large part of the year are some of the questions which, if dispassionately studied and honestly answered, will reveal to the mind of even a lay reader the true import of Mr. Gandhi's Khaddar movement.

When we know that 90.5 per cent of the total population of India live in villages and rural areas and that about 80 per cent of the people of India are agriculturists who have practically nothing to do for nearly six months in a year, the significance of a cottage industry in India's 700,000 villages becomes truly apparent. And such an industry is the hand spinning as has been satisfactorily proved from time immemorial. The Charkha is not Mr. Gandhi's creature. It lived in ages past in India's villages. It was, however, dead or dying. All that the Mahatma did was to revive it and try to restore it to its former economic status. Whether it has that status, has been ascertained by no less an authority than Dr. Harold H. Mann, the ex-Director of Agriculture of Bombay Presidency, who only recently declared that for the great work of filling the empty stomachs of the people much could be done by the people themselves. They must put themselves to work, he said, for no country could ever hope to be prosperous if the majority of its population were idle for six months of the year. The people must be given some work no matter how small the income derived therefrom during the dry season, and Dr. Mann added that no matter in what other way Mr. Gandhi had gone astray, he had penetrated into the secret of the poverty of India when he advocated the spinning wheel, no matter if it did produce only a few annas a day.

Its True Import.

In its true sense, therefore, the Khaddar movement means nothing but an attempted revival of indigenous hand-spinning and hand-weaving. Recently in an article in *Young India* Mr. Gandhi himself made this point specifically clear when he pointed out that in order to understand properly what the Charkha movement means one must first have a clear idea of all that it does not mean. For instance, hand-spinning does not, it is not intended that it should, compete with, in order to displace, any existing type of industry. It does not aim at withdrawing a single able bodied person who can otherwise find a more remunerative occupation from his work. To compare, therefore, the remuneration that hand-spinning offers with the earnings offered by any other occupation, to measure its economic value in terms of returns and dividends can only serve to mislead. In a word, hand-spinning does not claim to satisfy the economics of "getting rich". The sole claim advanced on its behalf is that it alone offers an immediate practicable and permanent solution of that problem of problems that confronts India, *viz.*, the enforced idleness for nearly six months in the year of an overwhelming majority of India's population, owing to lack of a suitable supplementary occupation to agriculture and the chronic starvation of masses that results therefrom. We thus see that to condemn the Charka as primitive, wasteful, uneconomic and so on is to reveal one's own fearful ignorance of the economic life of rural India.

The bibliography on hand-spinning and hand weaving and the Khaddar movement is distinctly larger and more exhaustive than the literature so far published in this country on any other industry. *Charka Shastra*, *Vanat Shastra* and several other books by the late Mr. Maganlal Gandhi, *Khadi Manual* by Babu Satish Chandra Das Gupta, *Message of Khaddar and Deshi Rang* (Indigenous Dyes and Dyeing) by Dr. Sir Profulla Chander Ray, *Charka Yarn* by Munta Bahadur V. A. Talleherkar and *Economics of Khadi* by Babu Rajendra Prasad are only a few of the many books that have so far been published in addition to the Mahatma's own volumes of speeches and writings on the subject. To this list Mr. Richard B. Gregg's *Economics of Khaddar* is the latest addition and commands particular attention for the exhaustive treatment of many different subjects bearing on this question. While on the one hand twelve chapters of this book constitute standard literature on the subjects discussed, on the other, it is not all theory and principle. In every place it is brimful of quotations from official and non-official records, books and documents which reinforce the author's ideas.

Misapprehensions Cleared.

Closely following the argument of Mr. Henry Ford who suggests that the cotton mills ought to be near the cotton fields, Mr. Gregg observes that the analogy to the Charkha is clear. Instead of massing workers in expensive cities and cotton mills he would have the spindles taken to the workers in their homes all over the land and utilize the power where it originally existed. Says Mr. Ford in his charming autobiography "My Life and Work": "The cotton mill ought to be near the cotton fields. This is not a revolutionary idea. In a sense it is a reactionary one. It does not suggest anything new; it suggests something that is very old. This is the way the country did things before we fell into the habit of carting everything around a few thousand miles and adding the cartage to the consumer's bill."

Our communities ought to be more complete in themselves. They ought not to be unnecessarily dependent on railway transportation. Out of what they produce they should supply their own needs and ship the surplus. How far this is achievable in this country in the present temper and characteristics of the Indian nation we may endeavour to indicate in this article.

One great objection to the universal introduction of the Charka is to be found in the contention that it can afford but a miserable pittance and is thus an economic waste. This contention is wholly wrong when it is remembered that the annual per capita income in India is exceptionally low. The economic value of the Charka will be immediately understood if we care to recall that while Dadabhai Naoroji reckoned the average annual income of an Indian at Rs. 22, Lord Curzon calculated it at Rs. 30 while the latest estimate on this point of Prof. Ghose of Calcutta University is Rs. 46-6. Compared with this, whether two annas per day or even an anna per day or Rs. 22-12 a year is a miserable pittance is a matter that the Mahatma has entirely left to be judged by those who have seen the 'chill penury' of the masses for themselves.

The questions that are next worth considering in connection with the Khaddar movement are the extent of its competitive nature with the Indian mills and the quality of the Khaddar produced on the handloom as compared with that manufactured in a power mill. Let us first see whether the Khaddar movement is competitive in its nature. The average per capita consumption of cloth in India is estimated at about 13 yards. With this figure when we take into consideration the fact that citizens in big towns and living on their borders consume per capita a much larger amount of cloth, the real per capita consumption in rural districts comes to only about 10 yards or even less. This means that a large section of the Indian population is ill-clad.

So far, therefore, as the question of competition is concerned, the Indian mill would not lose much for the simple reason that primarily mass production of Khaddar on a large scale must first go towards meeting the demands of a large part of the nearly naked and ill clad rural population. And even where the real competition is likely to be felt it would only be in the case of coarse cloth which some of our mills have already ceased to manufacture following the recommendations of the Tariff Board. Again the great Trade Mission that has left India with the natural ambition of capturing the piece-goods trade in countries lying on the outskirts of India is bound to offer Indian mills an untold opportunity for the very remunerative and speedy development of their export trade. We should not at all be surprised if, as a reward for this adventurous spirit of the Bombay owners, the mills in Bombay, in the near future, are inundated with orders from Persia, Afghanistan, Turkey, Arabia, Mesopotamia, Africa and elsewhere. It is probably in anticipation of the very rosy and cheerful prospects held forth by this Trade Mission that some of the mills in Bombay have ceased to have anything to do with wholesale trading in cloth bales and commenced careers as retailers in pieces and yards.

DURABILITY.

From the consumer's point of view, however, the comparative durability of the Khaddar and that of the mill cloth is of the greatest importance. It is claimed for the handspun yarn that it possesses many of the excellent characteristics which are conspicuous in mill cloth only by their absence. To see how far the claim is justified we must diverge into some technological questions and consider, though briefly, the nature of cotton and how it is treated in the factory and in the cottage respectively.

The consideration of equality begins with the nature of the tiny individual cotton fibre. A cotton fibre is a single elongated cell in the form of a flattened hollow cylinder or tube with very thin walls. It has a spiral twist, sometimes in one direction, sometimes in the other often reversing its direction several times in the same fibre. The twists differ in tightness, length or extent. Often parts of the fibre have no twist. No two fibres are alike. Fibre even from the same seed differ in ripeness, length, flatness, thickness of walls, maximum and minimum diameters, smoothness, evenness, softness, suppleness, elasticity, strength, moisture and volatile oil content and thickness of wax covering. Of course the variations in all these qualities between fibres from different seeds or bolls, fields or regions, or as between different varieties are still greater. The important thing to realize is that no two fibres are wholly alike. This fact is the basis of one great advantage which hand manufacture has over machine manufacture. In the very process of hand operation the sensitive touch and sight and discriminating judgment and the skill of the worker is present and able instantly to change and adapt itself and the working of the implements to the variations in the fibre. A machine, however, is necessarily uniform in its action and cannot adapt itself to variations between individual fibres, but to the larger variations it is more adaptable than machines.

To get over this difficulty in the machine it is necessary to treat the fibre so as to obtain as much uniformity as possible preparatory to spinning. The necessity for great output from the machines results in all these processes being done at the high speed and with great force. Tremendous beater and roller speeds in power ginning, enormous pressures in baling cotton, further violent, high-speed beating, the opening or blowing process, high speed machine scutting and carding, all these bruise, scrape, strain, cut and injure much of the fibre, and waste much of it, and decrease the elasticity, strength and vitality of what survives. The corresponding hand processes are vastly more slow and gentle and tend far more to preserve the valuable qualities of the fibre. This is perhaps specially true of Indian cotton in the ginning process because its fibres cling more firmly to the seed than is the case with other varieties.

Durability of cloth does not result already and solely from mere uniformity or evenness of fibre or yarn. Yarn or weaving may be uniformly poor as well as uniformly good. Durability results rather from uniform strength, uniform pliability and uniform elassity of yarn and uniformly close weaving. Here is a clear exposition of the theory of spinning which will be easily understood by everyone who has seen both the processes at work.

India's Resources.

Indian industrialists and politicians have in recent years envisaged foreign competition as solely a question of imported manufactures, whereas a problem of at least equal importance is the increasing difficulty India is encountering in finding markets for her foodstuffs and raw materials, mainly owing to the superior quality of the analogous products obtainable from other sources. An incidental indication of this rivalry is forthcoming in the sharp demand for the abolition of the present export duties on rice and Indian hides, says the *Times Engineering Supplement*.

India has for many years spent enormous sums on purchasing from abroad a product so well within her own capacity of production as sugar, but that she would ever be compelled to import rice constituted so startling a proposition that it had never previously been considered. The improbable, however, has occurred, and in the past year, as pointed out in the presidential speech at the recent annual meeting of the Burma Chamber of Commerce, "both Saigon and Japan have been selling rice to India this season at prices with which Burma exporters, owing to the high prices demanded by the cultivator for his paddy, cannot compete. This is the first time in history that Saigon and Siam rice have been imported into India." Further, "with the recent rapid expansion of rice cultivation in Southern Europe and America, Burma rice is in danger of being driven out of Western markets, and finds difficulty in competing with other

Eastern rice-growing countries, even in the markets nearest to Burma. It seems highly probable, therefore, that *Burma will, in the near future, have to* accept a lower price level for her rice crop." The deduction is plain: "It is, therefore, of the utmost importance that every effort be made by improved methods of cultivation to increase the yield per acre, and so cheapen the cost of production; also to improve the quality of the grain so as to hold those markets where Burma rice is now being steadily ousted by superior qualities from other countries."

Similar difficulties confront other Indian exports, and drastic reforms will be necessary to maintain the competitive position of products on whose sale in the markets of the world India relies to secure the funds *necessary* to meet her foreign obligations and to purchase the manufactured goods unobtainable within her own borders.

A Fundamental Difficulty

Within the limited space at his disposal the writer can only hint at the fundamental difficulty which hinders agricultural reform in India by quoting the recent assertion of the chairman of the leading indigenous joint stock bank that "at the present moment the agriculturists are absolutely in the hands of the shroffs, who charge anything from 12 to 125 per cent. It is this which keeps back their progress, and consequently the progress *of the country, and, recognizing* that India is an agricultural country, everything in the power of Government must be done in order to help the ryot to earn the fruit of his labours, which practically he does not at the moment, and has not done for centuries past." Co-operative banks offer some *relief, but, as the same authority added,* "there ought to be purely agricultural banks whose business would be to help the ryot with advances even on standing crops at reasonable rates of interest, so that they may benefit to the full extent of the value of the crops."

To no slight extent the present tendency for Indian capital to seek employment abroad is traceable to the absence of attractive new industrial investments locally—a lacuna unlikely to survive for more than a short period. Two other considerations bearing on the same subject may also be mentioned. India's sterling debt, according to the last Budget statement, still remains at the high figure of 344 crores, whereof only a small portion is held by Indian investors. It might be possible to evolve a scheme for the rapid extinction of this heavy commitment, but it is by no means *certain that* such a measure is as urgent as the investment of rupee capital on a larger scale in an effort to bring about a more rapid development of India's own resources.

Capital Expenditure.

In the current year the aggregate capital expenditure of the Central and Provincial Governments will amount to the sum of Rs. 40 crores. That is a fairly substantial amount, but less substantial than appears at first sight owing to the fact that it includes an allotment of 28 crores to finance railways which in India are a State monopoly and therefore absorb the lion's share of money raised by Government for developmental purposes. Excluding railways, it will be observed that *the money available for capital expenditure by* the State, in a country containing a population well in excess of 300 million souls, does not exceed £9,000,000 sterling, an absurdly inadequate sum in view of the opportunities open to the State for profitable investment.

The limitation may be due to some extent to the limited amount Government is able to borrow from local investors, but this limitation in turn is due to the poor terms Government offers. Taking a broad view, it is reasonable to urge that *it could be in the* general interests of India to borrow and invest more freely, even though the raising of larger loans involved a slight improvement in the terms offered. A larger capital expenditure in India, it must be remembered, is not desirable solely as a means of raising the productive, and therefore the purchasing power of the vast rural population on whose welfare the prosperity of the manufacturing industries depends. The economic development so obtainable, and obtainable in no other way, is equally essential as a means of assuaging political discontent and equipping the Provincial administrations with the revenues necessary to enable them to fulfil the responsibilities modern Government are expected to discharge. In Bengal to take a typical case which contains a population of approximately 40 millions, the Provincial Government commands a revenue of less than £9,000,000 per annum, and with that sum is expected to finance education, health activities, the development of agriculture and industries, irrigation, etc. Let it be noted that in few countries is economic progress dependent to a greater extent on State aid and initiative. If that observation applies to the great urban industries in the form of reliance on protectionist tariffs and bounties, it is *applicable, even more emphatically, to agriculture,* India's chief source of income, and to the minor handicrafts.

More Transport Facilities.

A railway extension programme of 1,000 miles of new line per annum is now being worked up to, and *the improved financial position of the railways has* been reflected in recent reductions in freight and passenger rates which should assist appreciably the general trade revival now in progress. A big road development programme, to be financed by a special tax on petrol, is contemplated, and will lead, in time, to an immense extension of motor transport. Aviation is receiving attention, and internal services will not be long-deferred, once the difficulties delaying the inauguration of the Indo-British connections have been overcome.

The short-time agreement between the jute mills survives, but its termination is in sight and only awaits the general revival in world trade which, it is hoped, will soon materialize.

The losses of the Bombay cotton mills last year were smaller than in the three preceding years, but the position of the industry remains unsatisfactory, and drastic reforms in methods of mill management will be necessary before the former level of prosperity can be restored.

The output of coal from the Indian mines is increasing, but the tendency is towards the further closing down of collieries producing second-class coal, and the concentration of production in larger units equipped with coal-cutting machine and other modern types of mechanical equipment. Government's position as the largest purchaser of coal is greatly strengthened by its control of a large number of railway collieries the output of which can be increased immediately the price of coal rises above what Government chooses to regard as a "*reasonable level*".

As noted by the Director of Industries in the United Provinces, one of the chief sugarcane-producing areas, there are indications of a growing realization of the fact that with improvement in the type of sugarcane produced and in the methods of manipulation India which at present makes only about 90,000 tons of refined sugar out of the 8,221,000 tons consumed, could

on the area now under sugarcane, satisfy her requirements of refined sugar for which she pays at present on 15 crores per annum to foreign producers.

HYDRO-ELECTRIC PROJECTS.

There is no more important development in process in India than the recourse, notably in the Punjab and Madras, to large-scale hydro-electric projects as a means of compensating for the absence of coal supplies except in the north-eastern corner of India. The establishment, especially in Upper India, of industries enjoying the "natural protection" deriving from high freight charges on imported manufactures must exert an influence on the import trade which, at this period, cannot be easily measured. The effect of the starting of cotton mills upcountry on the fortunes of the Bombay cotton mills is already evident, yet development of manufacturing industries in Upper India is only beginning. When the next industrial flotation boom comes in India, most of the new capital available for investment, it is safe to predict, will find its way into the Punjab and the United Provinces are as commanding, in India, the position and resources of the "Middle West" in the United States.

Further progress can be reported in the provision of first class port facilities at Chittagong, Vizagapatam, and Cochin, and Indian States, such as Hyderabad and Mysore, are pressing for freedom to develop ports equipped to subserve their own trades and industries. In India, it may be emphasized that large ports, such as Bombay, Calcutta and Rangoon, have served more than one purpose, inasmuch as, in addition to the facilities they provide for trade, they may be described as the industrial power-houses and intellectual centres of the country—beacons pointing the road to economic and political progress. Well, therefore, may India cry for more large ports!

Industries of the Punjab, 1926–27.

The following is taken from the Government review of the Report on the Department of Industries, Punjab, for the year ending the 31st March, 1927 :—

The Weaving Factory, Shahdara, sanction to the establishment of which was given during the year under review, is expected to start operations shortly. It will provide facilities for the training of weavers and educated persons, for whom a certain number of scholarships and stipends have also been sanctioned, and should stimulate interest in the development of the textile industry besides providing advanced training in dyeing under workshop conditions for the students of the Government Institute of Dyeing and Calico-Printing, Shahdara. During the year under review a calico-printing class was opened at this institute, and 66 students received training as against 56 during the previous year. An appointment of an Expert Dyer with manufacturing experience has just been sanctioned to meet the increased work of this Institute and the dyeing work of the Weaving Factory. Certain proposals for giving demonstration in the use of looms in places other than Shahdara are also under the consideration of Government. The Central Weaving Institute, Amritsar, has continued its important work on handloom demonstration work. The Hosiery Institute, Ludhiana, started its operations in December, 1926, and admitted 46 students, although it had accommodation for 40 only. Two new private hosiery factories were opened during the year, and it is hoped that the Hosiery Institute, Ludhiana, will stimulate increased interest in the improvement and advancement of this industry.

The question of the future of the Government Tannery, Shahdara, has been engaging the attention of Government for some time, and it was evident that the Tannery could not be continued as a commercial concern. The question of running it purely as a demonstrational and instructional institution has been considered, but it has been finally decided to close down the institution as the results likely to be obtained did not appear to justify the heavy expenditure involved. Arrangements, however, have been made for the organization of village demonstration parties whose duty would be the improvement of the hide, skin and leather industries in the villages, and to give training to village *chamars* in the judicious use of tanning materials and the skillful manipulation of improved tools.

There was a decrease in the amount of business done by the Arts and Crafts Depot, Lahore, from Rs. 60,203 to Rs. 41,100 during the year under review, due mainly to diminished foreign sales. But the Depot continued to do good work, especially in connection with the distribution of improved designs amongst the cottage workers. It is disappointing that full advantage was not taken of the provisions of the Industrial Loans Act and of the amount provided for the grant of loans, *i.e.*, Rs. 1,00,000. Although the security clauses of the rules had been revised so as to allow immovable property being accepted in security, not many applications were received for the grant of loans and therefore only Rs. 30,000 were spent out of this allotment. Provision is being made to allow the Industries Department to give demonstration in the latest methods of tanning, dyeing and manufacture of hosiery goods in addition to the improved looms which are at present being exhibited on the occasions of fairs. The work of the Intelligence section of the Industries Department is noted with approval. Government will watch with interest the results of the advice given, and of the keen interest shown by small capitalists and others in the possibilities of small cottage industries. A detailed economic survey of some of the industries of the province is being carried on with a view to the publication of up-to-date monographs on them for the benefit and guidance of those engaged in those industries and others interested in the subject. It is hoped that the establishment of the Joint Development Board will result in the advancement of the industrial prosperity of the province.

Sugarcane Planting.

Considerable interest is being taken at present in Cuba in the development of a new system of cultivation for replanting old cane fields.

The sugarcane is a deep-rooting plant, and in Cuba and many other countries a succession of crops can be grown from the same plant before replanting is necessary. As the successive "ratoon" crops are taken off, the yield falls until the time comes to plough up the old stools, recultivate and replant.

This operation which has to put the land again into condition for a number of years has to be very thoroughly carried out. Deep ploughing is generally followed by cross ploughing and often also by deep stirring of the subsoil with a knifer or heavy cultivator working up to as much as 24 inches deep. The operations are then completed by heavy harrowing and finally furrowing in readiness for planting the new crop.

The new system of working referred to consists in replacing all this series of operations by one thorough

working of the soil with the new Fowler "Gyrotiller" (Storey's patent), which breaks up the whole of the soil to a depth of 18 inches and finally cuts the new furrows ready for planting afresh.

The Gyrotiller, which is built in England, is a large implement fitted with a 220-H. P. engine and carried on two halt tracks and a single front wheel. The cultivating tools, which are carried at the back of the machine, consist of two rings of plough bodies which rotate in a nearly horizontal plane, breaking up the soil to a width of 11 ft. at each passage of the implement. With the gradual forward movement of the Gyrotiller, each rotating plough body cuts off a small portion of fresh soil and pulverises and mixes it very thoroughly with the soil already worked up.

The fact that the plane of rotation of the working bodies is *not horizontal, but inclined downwards* towards the rear, ensures that the full working depth is attained in two cuts, the bodies working deeper at the rear than in front.

Behind this come the ridging bodies, which leave the land furrowed ready for planting and perfectly tilled throughout.

By altering the rate of advance and speed of rotation of the working parts the degree of pulverization can be regulated according to conditions. In practice it is found that the stirring action is very effective in burying top growth, and further that the system of obtaining the full depth (18 in.) in two cuts ensures that the sub-soil is not brought to the surface.

Trials in Cuba, which have already extended over several months, have proved that the implement will completely prepare the land at the rate of about an acre per hour and at a cost of *208 dols. per cabellaria* (or, say, 25s. per acre), including all expenses except depreciation. This cost is a good deal lower than can be obtained with any other system, and the quality and thoroughness of the work is unequalled.

Agriculture in India.

Mr. P. R. Cadell, C.S.I., C.I.E., writes in the *Near East and India* for July 26 :—

It is, however, in the chapter on village life that the Report contains the most interesting of its suggestions, though not the clearest of its recommendations. It recognizes that the various Governments must do much more in the future than they have been able to do in the past, particularly in respect to medical relief and to education. But it points out also that the villager must *adjust his outlook to meet changing* conditions. "What is required," the Report says, "is to increase, in desirable directions, the villagers' wants, and to show him how to satisfy them by his own efforts." The hostile critic might observe that the villager is already painfully provided with wants which he is barely able to satisfy, without the creation of further needs. The Commission relies on improved guidance and the revival of the tradition of corporate action to raise the standard of village amenity; without such a revival, the hope of radical improvement must, the Commission thinks, be abandoned. Unfortunately every extension of administration, including local self-government, has hitherto led to a decrease in local effort. If the process can be stayed, and corporate action revived, through the adoption of the Commission's advice, the result will be the happiest conclusion of the Commission's labours.

The Report appears in another passage to point out the necessity for a reduction in the birth rate. It is doubtless as true as it was when the Famine Commission reported in 1880, that the numbers on the land are far greater than the requirements of cultivation demand, and the present Report holds out little hope of the possibility of the establishment of rural industries on a scale sufficient to occupy the over-abundant leisure of the agricultural classes. The increase of industries in the large cities, which will be the presumable result of the present protectionist policy, will doubtless continue to draw off much of the excess of rural population. The truest means of uplift will, however, be the diffusion of mass education in its widest sense. It is perhaps somewhat disappointing to find the Commission, while agreed on the necessity for compulsory primary education, so indefinite regarding the stages of its progressive adoption. It would, however, be difficult to prescribe compulsion without some idea of the manner in which the cost is *to be met. The Commission is entirely convinced* of the necessity for female education; but the method suggested for the demonstration of its advantages, namely the record of the educational history and subsequent development of the children of literate mothers, or of mothers educated *ad hoc*, seems singularly circuitous and open to disappointment. The Commission's preference for the ordinary secondary school with a modicum of elementary agricultural teaching to the vocational secondary schools tried in Bombay will command general assent.

The proposals outlined in the Commission's Report will necessitate an enormous increase in the number of agricultural and veterinary officers. The proposals also contemplate a large number of special appointments for which special recruitment or training will be necessary. The condition of the superior agricultural service is already sufficiently serious. Recruitment for it ceased in 1924; yet no Province has yet constituted the Provincial Service required to take its place. It is proposed that appointments to the agricultural services should be by nomination, and that many of the vacancies in the upper class, should, with the exception of research appointments, be filled by promotion from the second class; while *the second class itself should be largely composed* of men promoted from the subordinate ranks. It is obvious that much opportunity will be afforded for jobbery unless adequate Public Service Acts are passed. The Commission clearly indicates it to be desirable that many of the posts requiring special knowledge or administrative experience should at least at the onset be filled by officers recruited from abroad; but no definite pronouncement to this effect is made except as regards certain of the Pusa appointments. Speaking generally, the adoption of the Report's proposals would appear to entail an increase in the host of minor officialdom. This may be inevitable: it is none the less regrettable.

In concluding this report the members of the Commission emphasize that, while the ultimate success of all measures of rural progress must depend on the outlook of the peasant, the responsibility for taking action to render the conditions suitable for progress rests with Government. They consider that neither the Government of India nor the local Governments have in the past appreciated this responsibility. The Governments might perhaps reply that their responsibility is limited by their capacity to raise money. The Commission professes itself unable to frame any esti*mate of the cost of its proposals, and limits itself to* the hope that the various legislatures will appropriate the money for agricultural service as it becomes available. It is, however, clear that the amounts required are beyond the power of local legislatures to provide

except by the imposition of rates and taxes which would be so unpopular as to defeat their object. It might perhaps be suggested that the most suitable source from which the required reinforcement of provincial revenues could be obtained would be the import custom duties. These are imposed almost entirely in the interest of the manufacturer and industrialist. The cultivator receives no direct benefit from them while he bears a large share of their burden. Unless some such assistance is given, it is obvious that the progress of the agricultural interests in the different Provinces will be not merely slow but markedly uneven.

The Report ends with a word of warning to Viceroys and Governors as regards the necessity for their personal interest in agricultural matters. No one will doubt the value of the driving force of a Viceroy like Lord Curzon in the removal of abuses connected with famine or irrigation administration; or of the knowledge and interest of an agriculturist like Lord Irwin. In the Provinces, however, the responsibility for efficient administration must rest on the Minister of the Department; and ultimate success is only possible with the co-operation of the legislatures and of the electors.

The Report will disappoint some. It may even conceivably displease others. But as a clear pronouncement of the problems to be met, and the objects to be aimed at, it deserves the highest commendation.

Mysore Economic Conference.

Board of Industries and Commerce.

The following is an extract from the proceedings of the Eighteenth Meeting of the Board of Industries and Commerce held on Tuesday, the 27th November 1928, at 2-30 P.M. in the Legislative Council Hall, Public Offices, Bangalore, with Rajakaryaprasakta Diwan Bahadur Mr. M. N. Krishna Rao, B.A., First Member of Council (*Chairman*), in the Chair :—

I. *Report of the Sub-Committee appointed to consider the Development of Hand Spinning.*—The report along with the note prepared by the Director of Industries and Commerce, copies of which had already been circulated amongst the members, was taken up for consideration. The Director of Industries and Commerce stated that there was considerable scope for expansion of the industry in the neighbourhood of Badanval and that about 20,000 yards of cloth had been made since the Centre was started and that about half the production was taken by Government and the other half by the public. He also mentioned that so far no difficulty had been felt in disposing of the product. Mr. K. R. Srinivasa Iyengar wanted information as to whether the workers got cotton for spinning at usual prices or whether it was issued to them at special prices. He also enquired whether the prices paid for yarn and cloth were the usual market rates or any higher rates. The Director of Industries and Commerce explained the procedure that adopted in the Centre and stated that no special prices were paid either for yarn or cloth, that the prices paid were similar to those obtaining in other Centres for hand-spun and hand-woven goods and that these prices were slightly higher than those for mill-made yarn and cloth of similar quality. He mentioned the attempts that were now being made for reducing the cost of cloth made in the Centre and also for improving its quality. It was considered that as a subsidiary occupation in places where no other pursuit is possible, hand-spinning and hand-weaving were useful and deserved encouragement at the hands of the public and of Government.

The Board approved of the recommendation of the Sub-Committee that the Deputy Commissioners might be requested to consider the desirability of opening a similar Centre in each district if conditions were favourable for doing so. The financial help for meeting overhead charges in the beginning was stated to be about Rs. 200 a month for each Centre and it was suggested that the District Boards might contribute a share of such outlay.

II. *Report of the District Economic Superintendent, Mysore, on Emigration from the Nagamangala Taluk.*—This report is a study of the economic conditions of the taluk in some respects and contains interesting information. The Superintendent calculates that the emigrants remit home annually about a lakh of rupees. There are no proposals in the report calling for action on the part of the Board of Industries and Commerce. It was considered that it would be useful if Economic Superintendents prepared reports dealing with the economical conditions in one or two typical taluks in their jurisdiction. Mr. V. L. D'Souza was requested to suggest the general lines on which these enquiries might be made and indicate points to which attention might first be given and he agreed to comply with this request.

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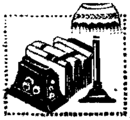
VI. *Report of the Sub-Committee appointed to consider the Establishment of a Wool Spinning Plant.*—The resolution of the Sub-Committee regarding the offer of Messrs. Sulzer, Bruderer & Co. for the erection of a plant for demonstration purposes on the terms set forth in their letter was considered. The Director of Industries and Commerce explained the need for a small plant of the type recommended. It was decided to recommend to Government that the offer of the Firm might be accepted and experiments might be conducted at the Kaiser-i-Hind Woollen, Cotton and Silk Mills and the Bellary Jail to ascertain the cost of spinning on the lines suggested by the Sub-Committee. It was mentioned that there were one or two probable purchasers of the plant recommended, if loans were granted.

According to the Canadian Bureau of Statistics, the production of pig iron in Canada for the first half of 1928 was 468,013 long tons, compared with 403,713 tons in the corresponding period of 1927. Cumulative production of steel ingots and castings during the first six months of the present year totalled 648,338 tons, an increase of 33 per cent over the 487,310 tons made in the corresponding period of 1927.



Books in Brief.

Short Reviews of Recent Books.

Chaitanya to Vivekananda.

G. A. Natesan & Co., Madras, pp. 152. Price Rs. 1-8-0. 1928.

The presentation of six life-sketches of Bengal Saints from that great mystic and preacher of unpassioned Vaishnavism, Chaitanya to the times of Vivekanada, is eminently well done within a small compass in this book. Sankara Deva, Haridas, Ramaprasad and Ramakrishna all these saints and reformers by their interpretation of Hinduism propagated a more and more virile type in Bengal, nay throughout India. It was they who glorified Hinduism from time to time to unique purity. These sketches with their golden utterances and verses interspersed make up a sound and readable book for us to comprehend in a short time and space to intrinsic worth of their particular teachings. All lovers of India must read books of this nature to know, respect and follow the footsteps of our great masters. The book is well illustrated with appropriate portraits.

The Searchlight Contempt Case.

The Behar Journals, Ltd., Patna, 1928, pp. 220. Rs. 1-8-0.

The above Contempt of Court Case as a *cause celebre* attracted attention throughout the whole of India. The limits and the propriety of a newspaper's criticism of the judgment of a High Court were prominently brought forth in the case. Added to this the defence of the Editor by two of India's greatest legal luminaries is pitched public interest to an intense degree. In this book is incorporated the articles that formed the basis for the trial as well as the judgments of the Chief Justice of the Patna High Court with regard to Barn Sati Case, etc. This is followed by a verbatim reproduction of the arguments of Pandit Motilal Nehru, Sir Tej Bahadur Sapru and the Crown Counsel. The judgment in the contempt case with the appendices containing the relevant matters bearing on the trial make the book perfectly informative on the subject.

Lawyers, publicists and journalists must find in this book much that will interest and instruct them.

The Arab Civilization.

By Joseph Hell, translated from German by S. Khuda Buksh, M.A., B.C.L., BAR-AT-LAW; pp. 128. Heffer & Sons, Cambridge. 8*sh.* 6*d.* net.

This is a translation from the German of Prof. Joseph Hell by the well-known Muslim writer Mr. Khuda Buksh. Arab culture—ancient, beautiful and virile—is clearly presented to the reader in a manner that has not, we believe, marred by translation of the original "*Die Kulter der Araber*". Mr. Buksh informs us that the book by Prof. Hell is brief, accurate and readable, fit for reading by the student, the scholar and the lay man. People desirous of learning a little of Arab culture and civilization that produced such a world teacher as Muhammad should own a copy of this book. We feel we must congratulate Mr. Khuda Buksh for having taken the work of carefully translating Prof. Hell's excellent monograph.

Books of this type, if widely read and pondered, ought to help in cementing the mutual relationship of the Hindus and the Muhammadans. A knowledge of each other's culture properly and authoritatively learnt, must tend to a better understanding of one another's foundations of belief. It is by imbibing knowledge of this kind that we can ever hope to realize that great requisite of political ambitions, Hindu-Muslim amity. Viewed in that spirit publications like the one under notice should be ranked as messengers of peace and good-will in this country.

Early English Intercourse with Burma.

By D. G. E. Hall, I.C.S., Professor of History in the University of Rangoon.

We congratulate Professor Hall on the very readable book he has produced on *Early English Intercourse with Burma* (1587–1743). He has based his account on the Madras and India Office Records, and as may be expected, the story he unfolds is one of great interest. That some such attempt as he has essayed has been long felt to be a desideratum there can be no question. The references to Pegu and Siam in the Fort St. George Consultations are many and frequent and the pains taken by Professor Hall will make his work of great value to students of history. The period covered by him (1587–1743) is the English not only in the status *of the English with Burma but also with India*. In 1587, even Masulipatam, the earliest English Factory on the East Coast, had not yet come into existence. The country round about Madras was ruled by the Hindu Sovereigns of the Dynasty of Vijayanagar. Altogether, Professor Hall's work is an eminently scholarly one and is a thoroughly readable account of early English intercourse with Burma. It fills an existing void in Burma's history and as such ought to be welcomed by every student of the history of India.

First Aid in Accidents.

By Dr. C. Rama Rao, M.L.C., L.M.P. Published by Sri Krishnan Bros., No. 323, Thambu Chetty Street, Madras. Price As. 12, pp. 233.

This little book on the art of rendering first aid in accidents needs no introduction. It was a success instantly it was published some years ago and it shows no signs of abatement as the ideal text for Ambulance classes, scouts and house-holders. The description of the proper methods to be followed in case of accidents is lucidly done with ample illustrations. We recommend this admirable manual to every household in India. It will be found useful at every time.

Articles in the Journals.

Bulletin of the Mysore Engineers' Association for April, May, June, 1928.—(1) Power Supply to Mettur, by C. M. Cariappa. (2) History of Nanjangud-Chamarajnagar Railway Construction, by M. Ramaiya.

Quarterly Journal of the Indian Merchants' Chamber, October 1928.—Bardoli Question, by Prof. D. R. Gadgil.

The Young Men of India, January 1929.—The Indian Question in South Africa.

The Mysore Economic Journal

A Monthly Periodical devoted to the Discussion
of all Economic Topics of Interest

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The Problem of Stabilization.

By Professor Gustav Cassel.

The function of a central bank, generally speaking, is to provide the home country with a stable currency. In a country possessing a free paper currency this will be tantamount to imparting constancy to the purchasing power of the currency. In a gold standard country this function will assume a more special significance: the central bank will then have to maintain the currency at a fixed parity with gold. In this case also the central bank will evidently have to regulate the purchasing power of the currency. This purchasing power must in fact be *constantly maintained at the same level as the* purchasing power of gold. That many countries have succeeded in maintaining a gold standard for a very considerable length of time is proof positive that it lies in the power of a central bank to regulate the purchasing power of the currency. To dispute this is to deny that it is possible for a central bank to maintain its currency at a fixed parity with gold. In fact in a gold standard country this function is rendered more difficult only according as the purchasing power of gold varies, thus making it necessary to adjust the purchasing power of the currency to variations in the purchasing power of gold.

If we can assume that the value of gold itself is unaffected by any action that may be taken by the central bank, the policy of the bank will be determined simply and solely by the function indicated above. Before the war it was, generally speaking, possible to proceed from this assumption without too much deviation from the truth. The same now applies to smaller countries *possessing a gold standard : regarded from* their point of view, the value of gold is an objectively given fact, and all they will have to do is to maintain the currency at a fixed parity with gold. The conditions are quite different in those countries which are so big that their monetary policy is bound to have an effect even on the value of gold itself. Among these countries the United States holds the first place, and in fact stands in a class apart. The central bank system of the United States, besides the primary function of maintaining the dollar on a parity with gold, has an additional obligation. This obligation, as expressed in the language which I used in my evidence before the House Committee at Washington, is that "the Federal Reserve system should utilize the influence it may have on the value of gold in order in co-operation with other central banks, *to prevent unnecessary fluctuations in the* value of gold."

So long as the United States is so abundantly supplied with gold as at present, and is in a position both to send gold out of the country and to receive gold without any apparent effect on the supply of means of payment within the country, the value of gold is in fact determined by the value of the dollar, instead of the reverse. The credit policy of the Federal Reserve banks accordingly determines not merely the purchasing power of the dollar but also that of gold, and thus becomes a model for the regulation of the currency by all other central banks.

Under such conditions the standard selected by the Federal Reserve system for the stabilization of the dollar—which in any case must always be its aim—becomes a matter of extreme importance. All other countries will of course, be obliged to adopt a similar standard for the stabilization of their currencies. In my opinion the goal in view should be a stabilization of the purchasing power of the dollar which would be expressed *by the general level of commodity price* being maintained as constant as possible. This price level is satisfactorily indicated by the Bureau of Labour index for wholesale prices.

This standard is, of course, in some measure conventional. It has, however, the great merits of being very simple, of being objectively

determinable with a considerable degree of accuracy and nevertheless of being so promptly available that the regulation of the currency is not thereby delayed. Another important consideration is that this standard enables other countries to follow suit. Experience has shown that, under fairly normal conditions, the stabilization of the level of prices on a similar basis in different countries results in a stabilization of the rates of exchange between them. It should moreover be realized that the selection of a standard for stabilization is by no means an academic question, but eminently a matter of practical policy. Thus it is necessary to find a standard on which everybody can agree, not merely in the United States, but also in other countries. Those who grasp will understand how senseless it is to agitate for other standards of stabilization which could merely satisfy special demands or particular theoretical views.

It is sometimes asserted that the general level of commodity prices is not a sufficiently comprehensive measure of the purchasing power of money. Attempts have accordingly been made to compile a still more general index, which is to include also wages and the value of capital assets, as expressed, for example, in the prices of shares. Such attempts, which are obviously based on statistical points of view rather than on considerations of practical economy, must be sternly repudiated.

That wages ought not to be included in the index seems fairly obvious. Assuming that the general level of commodity prices remains constant, a rise in wages is to be regarded merely as an expression of the increased efficiency of labour. To prevent this natural result of human progress from having effect seems irrational; at any rate this is not the proper function of the central bank. It must further be borne in mind that statistics of wages as a rule are by no means so reliable as statistics of wholesale prices, and that they are usually available much too late. An additional drawback is the striking lack of uniformity in the wages statistics of different countries.

As for the value of capital assets, it is, of course, nothing but the capitalized value of the return on those assets. This brings in the rate of interest. But to drag the rate of interest into an index which is intended to express the prices of commodities is unduly to complicate the matter, and greatly to obscure the theoretical significance of the index number. The adoption of such a standard for stabilization would moreover entail very great inconviniences in practice. The inevitable consequence would be to put pressure on the central bank to check a rise in the prices of shares, and thus to push it into a sphere which is beyond its power of control. It must also be borne in mind that the maintenance of a stable level of commodity prices presupposes continual changes in the bank rate. As these changes are bound to be followed by certain fluctuations on the prices of shares, what sense can there be in trying to prevent those fluctuations?

It should thus be clear that the level of commodity prices pure and simple, as expressed in the usual index for wholesale prices, is, both in theory and in practice, decidedly preferable to a more complicated index number. This general level of commodity prices moreover provides a sufficiently good standard for stabilization policy. Indeed, when we get so far that the various currencies of the world have a stable purchasing power in relation to the staple wholesale commodities, or, in other words, that a wholesale price index once fixed is maintained constant, the world will possess a monetary system so immensely superior to anything previously on record that we shall all have reason to feel extremely satisfied. A monetary system thus stabilized would give industry and commerce as much stability as could be desired, at any rate as much stability as could conceivably be imparted to it by monetary means.

In discussing the effects of the standard selected for the stabilization of the currency, we must obviously proceed from fairly normal conditions. If the abnormally high level of commodity prices at the time when inflation was at its worst, say in the United States, had been taken as the basis for stabilization, the policy of stabilization would presumably have encountered very considerable difficulties. To determine the level at which the currency should be stabilized after a period of violent inflation is a separate question, which must be kept distinct from the problem of selecting the *index* for stabilization. After such a period it may be presumed that some deflation will as a rule be necessary in order to get back to a level of wholesale prices at which the entire national economy can be brought into equilibrium without too much hardship. As regards the United States in particular, it was doubtless unavoidable that the stabilization should have been made at a price level considerably below the maximum of the period of inflation. In fact, an attempt to maintain the value of gold for any length of time at the low level corresponding to commodity prices at their culmination would have led to great difficulties. These, however, are questions which lie beyond the scope of the problem on which we are here engaged.

The procedure actually adopted in the United States was to force down the general level of commodity prices to about 150, as compared with the pre-war level. This deflation was brought to a termination in 1921, since when the wholesale price level has been maintained fairly constantly at that level. That since then the economic development of the United States has been comparatively steady, and at any rate extremely favourable, seems to be convincing proof that it was wise to take the wholesale price level as a standard for stabilization. Any other standard could scarcely have produced such favourable results. Thus the criticisms directed against the wholesale price level as a standard for stabilization are not supported by experience.

Some people entertain the idea that it is the duty of the central bank to ensure steady progress, and that it should accordingly endeavour to equalize the fluctuations of the economic life. Attempts have actually been made to set up this aim as a standard for stabilization policy. Views of this kind appear to have had some influence on the bank policy of the Federal Reserve system.

If this policy were to be carried to its ulterior consequences, it would be necessary to construct an index number for the general economic progress of the country, and to direct the central bank to concentrate all its efforts on keeping this index number constant. That such a scheme would be extremely unpractical is self-evident. It would be most difficult to induce any central bank in the whole world to accept such a mandate. It would obviously be still more impossible to get all countries to agree on a policy of this nature, and on the basis for the compilation of "the index of progress".

Quite apart from these difficulties, however, the scheme is marred by an inherent defect. It signifies in fact that the central bank should undertake to endeavour, by monetary means, to check unusually rapid progress due to natural, and in themselves very satisfactory, conditions. Such tendencies, it is true, may from time to time be discerned in the policy of the central banks. Attempts are sometimes made to retard the rapid development of production, with the idea of allowing time for "purchasing power" to develop at the same pace. When in popular discussions people argue about the insufficiency of purchasing power, they are, however, sure to be on the wrong track, and are apt to be led into the most absurd conclusions. The purchasing power of the community can never be anything but the value of the total production of the community, and therefore cannot develop at a slower pace than the latter. Accordingly there can never be any reason to place obstacles in the way of a rapid development of the country's production in its entirety. A sequence of good harvests, the discovery of important natural resources, the opening up of new geographical areas to civilization, technical improvements of fundamental importance, the upgrowth of particularly vigorous generations, all these and many other things may cause general economic progress to advance at a more rapid pace than usual. There is no reason whatsoever why we should endeavour to check such a development, and it least of all concerns the central banks so to do.

If the central banks will only see that the purchasing value of money is kept stable, in the sense that the general level of commodity prices remains unchanged, cyclical fluctuations of trade such as were experienced before the war will be relegated to the limbo of the past. For these fluctuations always contained an element of inflation, and this was the real source of trouble. If we manage to eliminate this element for the future, we shall still have to reckon with certain fluctuations of the market, that is, with varying degrees of rapidity in general economic progress. But these fluctuations will doubtless differ, in important respects, from those which we experienced before the war. It would at any rate be extremely hazardous to embark upon a policy which aimed from the outset at equalizing these fluctuations. It will first be necessary to gather experience, and we must be prepared to wait at least twenty years before sufficient material is available for sound judgment in this matter. But the very possibility of collecting such material depends entirely on whether the world now decides for a policy of stabilization which shall aim exclusively at maintaining the general level of commodity prices constant.

If the central banks are asked to discharge this function, we must not saddle them with another function in addition. We must therefore forego all those various demands which the general public is wont to thrust upon the central banks. They must not be expected, for example, to stabilize the prices of specific goods, to maintain the prices of agricultural products in a proper relation to those of industrial products, to exercise a regulating influence on the prices of shares, and so forth. Such demands are, by their very nature, foreign to the monetary sphere, and the central banks should therefore be entirely freed from compliance with them.

The Future of Flying.

By Harry Harper.

Author of "The Air Way," "The Steel Construction of Aeroplanes," etc.

The most significant subject of discussion at those gatherings of experts which, just recently, have been celebrating the 25th anniversary of the first aeroplane flight, has been that of the future, immediate and more distant, which lies before the flying machine from a commercial point of view. Technicians, both in the United States and Europe, seem in agreement as to one crucial point. This is that every effort must now be focussed upon forging those aerial links which still need to be provided if international aviation is to realize its ambition of a completely globe-girdling system of high-speed airways. The most interesting factors at the moment, in this regard, are to be found in the forthcoming trials of new long-range airships of a size much greater than any attempted hitherto. These machines, such as our British super-giants R. 100 and 101, are reckoned likely to provide a key to commercial aviation so far as non-stop aerial journeys above oceans are concerned. This point has emerged constantly during recent exchanges of expert opinion. It is true that large flying-boats, built of metal instead of wood, are now developing remarkably, and that their future appears almost illimitable. But at the same time, looking ahead for some years to come, it appears that from a load-carrying point of view the large airship is the only aerial vehicle which can tackle trans-ocean journyes on a really commercial basis.

Experiments in Progress.

The position, as technical people see it, is now this. If big exprimental airships which are to be tested this spring prove a success, an endeavour will then be made to put in hand still larger and faster dirigibles of an ocean type, for which plans are already prepared, and which will be better suited, from the point of view of the average speeds they attain, to cope with the retarding winds which have to be reckoned with in east-to-west aerial journeys above the North Atlantic. Once ocean airships of a thoroughly commercial type can be obtained, and can be proved to be business propositions in regular service, it is the intention to establish a large and well-financed syndicate, backed by powerful interests in the United States and Europe, to operate an airship service for passengers, mails and merchandise above the North and South Atlantic, and also to and fro above the Pacific. Once such long ocean journeys can be accomplished regularly by air, an immense stimulus will be provided for overland connecting routes by high-speed aeroplanes, and also for comparatively short coastal sections by flying-boats. Globe-encircling air lines will, in fact, become at last a practical proposition, and world air transport will really enter upon its own, its slogon being summarized in the words "speed with safety".

Heavier-Than-Air Machines.

So much for that aspect. Now for one or two others. Lord Thomson, one of our British air delegates to the international anniversary conference held recently in the United States, told reporters as he was about to leave New York that great importance should now be attached to the production of heavier-than-air flying machines capable of moving quite slowly through the air. Here he indicated a trend of development concerning which, in this country, we should see some really interesting progress during the coming season. From many aspects of aerial navigation, particularly in these islands where visibility is often bad, the evolution of an air machine in which the pilot could, whenever required, slow up in the air and come to a standstill without falling, would represent an achievement of extreme importance. The encouragement of machines promising success along such lines has, for some time, been the policy of the technical department of the Air Ministry. Hence the patient development work which they have put in on craft of the Autogiro type. Hence also their recent acquiring of the British rights of an exceptionally interesting apparatus designed by the Italian vertical-flight expert, Signor Isacco. Very little has been heard about the Isacco machine so far, but this state of affairs is not likely to endure much longer. What Air Ministry experts did, after buying the plans, was to subject the whole scheme to the closest technical scrutiny from the point of view of the stress-factors involved. Then, just recently, as a result of these investigations, they placed an order for the construction of a full-scale, man-carrying machine embodying the principles evolved by Signor Isacco. This craft is now in

tive construction, and before long should be undergoing its preliminary trials.

THE ISACCO MACHINES.

One may say, without going into technical details, that the essential feature of this Isacco machine is that it should rise straight up off the ground, without any forward run, and that when in mid-air it should be able to come to a standstill and hover motionless: also that it should be able to descend vertically and alight on any quite restricted space. Combined with these remarkable features is to be a power of moving horizontally at high speed. Naturally the practical development of such a machine will be a matter occupying some appreciable time. A full success, in certain technical respects, can hardly be expected at once. But the tests of the first machine are awaited with keen interest, and the future of craft of this type is regarded as being of vital significance.

AERIAL HYBRIDS.

The ideal for a privately-owned air machine has always been that it should be possible to wheel such a craft from its shed, go straight up into the air in it from a small ascending-ground, and then come back to earth again on some space no larger than an average lawn. Given also, in such an aircraft, the power to move through the air at only a few miles an hour, or to come to a standstill and hover above any given spot, and one seems to have attained almost the ideal so far as the ordinary, every-day navigation of the air is concerned. It is not to be assumed that such an apparatus as the Isacco will bring us immediately to this long-sought goal: but certainly it should pave the way for further progress of an important nature.

In the United States and France, where air technicians are looking keenly into the future, there is now a tendency to consider that the perfected flying machine may take the form of some hybrid craft, part airship, part aeroplane and part helicopter. Already designs are in hand which will put such ideas to a practical test. These aerial hybrids are intended to have a gas-container, constructed from extremely thin sheets of light-weight metal alloy. Wings of a telescopic metal type are also provided for; while the air-screws will swivel in such a manner that they will be able to exercise their thrust either horizontally or vertically. In ascending such a machine would be lifted partly by its gas-container and partly by the action of its screws, pulling or thrusting vertically. At such moments, therefore, it would resemble both airship and helicopter. Once aloft, the telescopic wings would be extended and the air-screws set to exercise a horizontal thrust. Whereupon the movement of the machine would resemble that of an aeroplane. All such ideas need, of course, an immense amount of development before there is any hope of practical success: but the fact that they are in hand, and that many new ways of approaching fundamental problems are now being devised, is one of the happiest auguries for the progress of aeronautics. Never, in fact, were technical minds more active, and never did aerial prospects seem more bright.

In their order, dated April 10 last, the Mysore Government sanctioned the establishment of a Land Mortgage Bank for enabling agriculturists to redeem their prior indebtedness. The loans are repayable in 25 to 30 annual instalments. In accordance with the recommendations of the Linlithgow Commission, it is proposed to establish the Land Mortgage Bank as a co-operative institution subject to the Mysore Co-operative Societies Regulation and for this purpose certain amendments to this Regulation have to be made providing for the appointment of a Director of the Land Mortgage Bank, for a smaller proportion than 25% of the net profits being credited to the Reserve, for the Bank having a prior right on lands mortgaged to it in respect of loans advanced for redemption of prior debt, and for nomination by Government of a trustee, and for the appointment of a Board of supervision in addition to a Board of Directors and of Government representatives to these bodies.

The bill is intended to extend the scope of the Regulation so as to cover the foregoing special features of the scheme. The necessary bye-laws will be framed and the existing rules under the Regulation will be suitably amended to provide for the other details of the scheme

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A cabbage plant that produced six cabbage heads in turn, one above the other, and has finally ended its career with a crop of valuable seed at the top of the stalk is one of the latest wonders from America. This plant has been reported to have been produced by keeping it in a high temperature of 70 degrees F. and above for two years. Controlled temperature has an important effect on crops.

Capitalization of Labour.

By Sir Daniel Hamilton.*

Political economy, which is in reality one subject, has become two—politics and economics, which may be likened to chaff and wheat. Politics is now a game, the stake being men's lives, while economics is a serious business, on the right understanding of which the prosperity of the people and the welfare of the State depend. Unfortunately the chaff is more plentiful in these days than the wheat, the result being that great masses of the people are starving for want of that physical and spiritual nourishment which forms the bread of life.

Votes are well enough in their own place, *and the proper place for many of them is the* waste paper basket; but votes do not fill empty stomachs. The people of Great Britain have now more votes than they ever had before and there is now more unemployment in Great Britain than ever there was before. Work, hard work of soul and body, is better than votes—it is the only thing which will enrich a nation; and the only sound political system is one which will enable every able-bodied man to find full employment in the work for which he is best qualified and which will ensure that every man will receive and be able to retain the proceeds of his labour. How does India's political and economic system stand this test? It cannot stand it. India is a land in which men have little heart to work for the proceeds of their *labour go to others. India is a land where the* many sow, and the few reap: a land where the many are poor and the few rich.

An Appalling Situation.

Political economy would almost seem to be a lost science in India, and the result of that loss is recorded in the Resolution passed by the All-India Conference of Medical Research Workers, as quoted by the Linlithgow Commission :—

"This conference believes that the average number of deaths resulting every year from preventible disease is about five or six millions, that the average number of days lost to labour by each person in India, from preventible disease, is not less than a fortnight to three weeks in each year, that the percentage loss of efficiency of the average person in India from preventible malnutrition and disease is not less than twenty per cent, and that the percentage of infants born in India who reach a wage-earning age is about fifty, whereas it is quite possible to raise this percentage to eighty or ninety. This conference believes that these estimates are understatements rather than exaggerations but allowing for the greatest possible margin of error it is absolutely certain that the wastage of life and efficiency which results from preventible disease costs India several hundreds of crores each year. This conference believes that it is possible to prevent a great proportion of this waste at a cost which is small in comparison with the expenditure.

"*The recent census shows that the position* in India is one of grave emergency. This conference recognizes that the problem is very complicated, and involves not only medical research, but also question of public health, medical relief, medical education, propaganda and social and economic considerations.

"This conference believes that the greatest cause of poverty and financial stringency in India is loss of efficiency resulting from preventible disease, and, therefore, considers that lack of funds, far from being a reason for postponing the enquiry, is a strong reason for immediate investigation of the question."

Huge Waste of Capital.

"Financial stringency, lack of funds" is *the plaintive song, the funeral march,* the dismal-drum beat of the "tom tom" which we hear resounding from the Himalayas to Cape Comorin: hundreds of crores of India's working capital running to waste every year, thousands of crores in every generation, and so little being done to stem the flow. Yes, political economy, as now practised in India, is a dismal science and it is not surprising that the body politics is sick.

Who can stem this outflow of India's life-blood? Government cannot do it, the Congress cannot do it, the Simon Commission can not do it; only the people can—the labours of India's hands and brains, if Government will give them the chance. Unorganized and disunited as they now are, the great masses of the people are like sheep without a shepherd and they fall an easy prey to the wolves, whose chief is the "mahajan". When the "mahajan" sickens and dies, the sheep will fatten and live.

"Financial stringency, lack of funds," as the medical authorities suggest, is no excuse

* Paper read under the auspices of the Bengal Economic Society on 31st January at Asutosh Building, Calcutta.

of inaction on the part of Government: for the people's labour is the people's capital, and India has a larger supply of that capital than any other part of the Empire. If Sir George Schuster will read the first 25 words of the "Wealth of Nations" he will learn that labour is the Fund which supplies all the necessaries and conveniences of life. The people do not ask money from Government, but they do ask, and must insist, through their representatives in Council and Assembly that Government will monetise their labour, to whatever extent may be required to keep every able-bodied man fully employed on productive and constructive work—work which will feed the people, and will not fatten the wolves. The monetizing machine is the Paper Currency Department of Government, and the currency note is the only possible form of credit for a people who have no bank accounts, and who can neither read nor write. Besides it is the people's own currency, and the only form of credit which they know and trust. The money machine is at present only a toy, which must be enlarged into a 320 million man power engine, if it is to drive India along the path of peaceful progress, to her destined goal.

Roots of Unrest in Villages.

I have no hesitation in saying that 75 per cent of the present unrest has its roots in the villages of India. A few days ago, on my zamindary in the Sunderbans, one of my tenants showed me half a bag of paddy which he had dug from a rat hole. India's villages are infested with rats of all kinds, rats with silver teeth and golden claws, which thrive on the labour of the people. It is only a waste of time for the Government, or the Congress, or Sir John Simon, to tinker with the roof, if the rats are left to undermine the foundations. Drown out the rats with a flood of the people's organized productive credit, strengthen the foundations, and then begin to gild the temple dome; for the Viceroy cannot wield the sceptre at Delhi, while the "mahajan rules and reigns in the village".

Government's Position.

England has lately been celebrating the tercentenary of John Bunyan, the author of "The Pilgrim's Progress". The pilgrim was a man who fled from the Satanic City of Destruction, with a load of sin on his back, in an effort to reach the Celestial City, but he could not reach it until he had got rid of his burden of sin. The Indian raiyat would also like to flee from the Village of Destruction in which he now lives, and reach the Village Celestial where he might find rest and peace, and grow to the stature of a man: but the load of debt on his back bears him down—debts are the sins of others rather than his own, sins of commission on the part of the "mahajan" and the sin of ommission on the part of Government in not supplying him with his own paper currency to monetise his labour. The Government of India has lately floated a large four and a half per cent loan in London, but where would the Government's credit and budget be if its loans cost fifty or a hundred per cent? The Government of India rests upon a bankrupt foundation, and the only possible remedy for turning that bankruptcy into solvency is the organized co-operative labour of the people, which can be monetized so easily by the Government, yielding a hundred per cent of crops to the people and a clear five per cent of profit to Government. Is Sir George Schuster going to neglect so great a chance?

A Grave Emergency.

The Medical Research Workers have told us that "the position is one of grave emergency". The young men of India—the pick of the colleges and universities—are eager to serve their country. Is their brain power to run to waste or worse? Harness them to the rayat as organizers, by monetizing their brain power as I have suggested, let them organize the people's labour and credit, and the unified power of India's hands and brains—the great 320 million man power engine will soon make India move.

In recommending that the best of India's youth should take up the work of organizing the masses I am only following up the recommendations of the Linlithgow Commission, who say:—

"We wish strongly to press the claims of the rural areas upon the time and interest of the best of India's youth. It is upon the homes and fields of the cultivators that the strength of the country and the foundations of its prosperity must ultimately rest. We appeal to both past and present members of Indian Universities to apply themselves to the social and economic problems of the country side, and so to fit themselves as to take the lead in the movement for the uplift of the rural classes. We trust that the authorities and teachers of universities may do all in their power to encourage the study of these most important subjects. The opportunities open in India to men able and willing to play a selfless and patriotic role in the field of local leadership and of service to the public, are unbounded.

"Among a people whose history goes back as far as does that of India, and in a society upon which the fetters of custom are so firmly bound, the inertia of centuries can only be overcome by the ready self-sacrifice, by the enthusiasm and by the sustained efforts of those who themselves enjoy the blessings of a liberal education."

Self-Government to be of any service, must begin at the foundations and not at the roof. It is no use talking of independence until the people are independent of the "mahajan" and it is no use talking of Dominion Status while the status of the masses is the status of the serf.

Import Duty on Pig Iron.

By K. C. De.

The importance of pig iron for the development of the industries of a country cannot be exaggerated. It is the principal raw material for the manufacture of iron and steel which are again the basic industries for almost every other industry. It can be said without fear of contradiction, that the industrial development of a country depends mainly on its ability to produce pig iron economically. There is an economic doctrine to the effect that other things being equal, the country that produces the cheapest pig iron, has the advantage over its competitors throughout the whole range of heavy steel products. So far as this essential material is concerned India is best situated and has immense advantages over other countries throughout the world. A bountiful Providence, has given her the best possible resources in raw materials and she is already producing pig iron more economically than any other country in the world.

This advantage, unfortunately, is being exploited by a few firms who taking advantage of this unique position and on the import duty on this material have entered into a Trust and are maintaining a high price on the basis of the rates of the foreign manufacturers plus 10 per cent import duty and are exporting to foreign countries at a much lower rate. By the maintenance of this high price and by making this invidious distinction in the export price and the price for internal consumption and some members of this Trust being themselves large manufacturers of finished cast iron, they have ruined and dislocated several other industries of the country engaged in cast iron relying on foreign pig iron before these firms came into existence.

Manufacturers of Pig Iron.

At present the Tata Iron & Steel Co. at Jamshedpore, The Bengal Iron Co. at Kultil and the Indian Iron & Steel Co. at Asanso are the principal manufacturers of pig iron. There is another firm in Mysore who manufacture pig iron with charcoal but their output is not sufficient to affect any industry to an appreciable extent.

Of these firms the Tata Iron & Steel Co is an Indian firm enjoying protection from Government by the imposition of tariff duties over all classes of steel manufactured by them as also by large bounties from the public revenue.

The Bengal Iron Co. is a foreign firm with foreign capital and this firm with Indian Iron & Steel Co. are under the managing agency of Martin & Co. Thus these two firms of Martin & Co. and the Tata Iron & Steel Co. are controlling the rates and manufacture of this most important raw material necessary for almost all industries in the country.

The Cost of Manufacture.

The Tariff Board in their Report of 1925, page 18, stated, "The total cost of pig iron is not more than Rs. 30 per ton while the Tata Iron & Steel Co. have sold pig iron on ten years' supply contract, for as low as Rs. 28 which is supposed to have left them a reasonable profit." A representaive of the Tata Iron & Steel Co., in his evidence before the same Board, stated (*vide* Vol. I, page 17 of the Tariff Board's Report of 1924): "We can produce pig iron from raw materials at prices, which enable us to export freely in competition with England and America. They hoped to reduce cost still further by employing Indian labour."

The Trust however maintains rates for the industries of this country for Pig Iron No. 2 foundry grade at Rs. 65 per ton F. O. R. Calcutta while exporting the same stuff to foreign countries at Rs. 45 per ton.

The other two firms in this Trust under the Managing Agency of Martin & Co., together with another firm started by the same managing agents under the name of Eastern Light Castings and a subsidiary firm of Tata Iron & Steel Co. are engaged in manufacturing cast

on in an extensive scale and as only these firms have the essential raw material at their command at cheap rates they are monopolizing the whole of the cast iron industry and the old industries of the country who used to rely previously on imported pig iron have either to close down or to divert their activities to the lines in which these firms are not interested. This is happening at a time when India is producing the cheapest pig iron in the world.

The difficulties of other firms as a result of this combination and consequent unhealthy competition can well be described by the following instances :—"In 1926, The North Western Railway Company called for tenders for the supply of cast iron sleepers. The Bengal Iron Co. quoted Rs. 68 for the finished sleepers while the rate of pig iron alone of this Trust of which this Company was a member at this time was Rs. 65 per ton. This happens every year and the sleeper supply worth several lakhs of rupees annually is a monopoly of the Trust."

THE JUSTIFICATION OF THE TRUST AND THE GOVERNMENT'S DUTY.

The question, in fairness, arises whether this Trust can be permitted to thus monopolise such a tremendous amount of raw materials preventing further enterprises and developments in these lines. It is time to devise some means whereby the vast natural resources of the country can be equitably distributed among the children of the soil who must be considered copartners in such natural gifts.

Government is also unwittingly helping this most unjust combination by imposing a duty of 10% on the import of pig iron. The duty was 1% from 1900-16. It was raised to $2\frac{1}{2}\%$ from 1916-22 and 10% from that time and this increase was due to raising the revenue in that year.

Import duties are justified only on two grounds : Firstly, to raise the revenue and secondly for the protection of industries. As there is hardly any import of pig iron at present Government stands to lose no revenue and the first ground is not applicable. Protection to industries again is justified only on three conditions as laid down by the Fiscal Commission in para. 97 of their report, *viz.*, (1) The industry must have natural advantages ; (2) the industry cannot develop without protection ; (3) the industry must eventually face world competition. The Tariff Board in para. 14, page 24 of their report stated : "India is already producing pig iron more economically than any other country in the world and a considerable export trade has come into existence with Japan and the west coast of America."

Besides, all the members of the Trust manufacturing pig iron have previously stated that they require no protection. Thus the second condition cannot also apply. The result of the existence of this has been that the manufacturers of pig iron by entering into this most unfair combination has been exploiting the consumers in India and are crushing other struggling rival industries and it is up to the Government to abolish this duty without any delay.

EFFECT OF TRUST ON OTHER ENTERPRISES.

Even the undue advantage enjoyed by this Trust will pale into insignificance if the amount of annual import of cast iron in different shapes of machineries, pipes, fittings, etc., be taken into consideration. The total cost of this import will be several lakhs of rupees. At least a portion of this imported stuff could be manufactured by other enterprises in this country if the Trust would not have maintained this inflated price on the most essential raw material. This would have contributed to the general growth of industries in the country and solved the unemployment problem to a certain extent. Thus this Trust is affecting not only the other existing enterprises to prosper but is also discouraging further enterprise in the line and are affecting all the consumers in India. It is stated some members of this Trust have applied to the Tariff Board for the maintenance of this most iniquitous duty on pig iron. Nothing could certainly be more ridiculous than this selfish request.

TATA IRON & STEEL CO.

At this stage it may not be out of place to mention that the association of the Tata Iron & Steel Co. with this Trust is not justified in any way. This firm was the first and is still the only firm in India to take advantage of the vast resources in raw materials for the manufacture of steel. In spite of their best situation in respect of raw materials and unique position among the world competitors they could not withstand foreign competition after the war and had to seek protection of Government for their very existence. The Legislative Assembly on the 16th February 1923 adopted a Resolution recommending, among other things, to accept in principle the proposition that fiscal policy of Government may legitimately be directed towards fostering the development of industries in India. The Government of India in pursuance to this resolution appointed a Tariff Board by their Resolution No. 2478 dated the 10th July 1923 and as

recommended by the Fiscal Commission in para. 107 of their report, asked the Board to examine first the question of extending protection to the manufacturers of steel in India. The Board, after enquiries, recommended the protection of steel industries (in which the Tata Iron & Steel Co. alone are interested) by imposing duties on those steel which are manufactured by the firm. This imposition of protective duties on an important basic industry has naturally affected the consumers and other industries. Even this protection was not sufficient and subsequently large bounties had to be sanctioned from public revenue to keep the firm alive. Thus the very existence of this firm depends on the huge sacrifice of the people but they are paying this debt of gratitude entering into an unholy alliance with foreign capital and strangling the other struggling enterprises in this line. It may be mentioned in passing that this firm not being engaged in the manufacture of cast iron is not benifited beyond having a higher price on the pig iron consumed in India. Again in this respect the amount of their output consumed in this country is insignificant but in spite of this they are instrumental to this huge foreign exploitation and no language could be strong enough to condemn the action of this Indian Concern.

There are several instances of firms investing huge capital having come to grief for their failure to secure pig iron at a reasonable price. The case of Kirtyananda Iron & Steel Works and Sikdar Iron Works may be mentioned in this respect.

Kirtyananda Iron & Steel Works invested a capital of about 15 lakhs and were the second private enterprise in the country to manufacture cast steel. Owing to failure to secure imported pig at a reasonable rate to compete with foreign import of cast steel and Indian pig iron not being suitable for the purpose, they had to give up steel casting. They could not again secure Indian pig iron at a cheaper rate from the Trust to be able to compete in the open market with the producers of cast iron who are members of the Trust and had to close down altogether.

Sikdar Iron Works was established in 1879 long before the inception of any of these firms. They were the first enterprise in this country to manufacture rain water down pipes and spiral staircase, etc., and had established a reputation for light casting. They contributed to a large extent for the stoppage of import of these materials from the foreign countries relying for their principal raw material on the foreign imports and carried on a flourishing business. Since this Trust has come into existence and the pig iron is at the disposal of this Trust who are also competitors in the market for finished products, it has become extremely difficult for this one of the oldest enterprises in the country to carry on and to meet both ends. This is the story all over the country.

That India is backward in industrial development is an undisputed fact. The policy of the Government is also to encourage the growth of Indian industries and private enterprises by all legitimate means. There could surely be no justification for this Trust to maintain such unfair inflated price on this most important raw material and there is least justification for this protected and bounty-fed firm to enter into this Trust and it is high time for the Government to abolish the present import duty on pig iron and to ask the Tata Iron & Steel Co. to dissociate from this combination and to supply pig iron to the Indian consumers at a reasonable price thereby enabling other enterprises to compete into open market for the finished goods with the manufacturers of pig iron. The rate of pig iron for supply to other enterprises in India may be settled by the Government and if this Company still persists in this unequal treatment the protection they are getting may be withheld. This is most essential for the encouragement of private enterprises and the growth of Indian industries and with that the general prosperity of the country. This will also partly solve the unemployment problem.

The Madras Government have issued the following:—The Government have received a representation that hardship is caused to ryots who take loans under the Loans Acts by the fact that penalties are frequently levied on petty outstanding arrears even though the rules permit the remission of such penalties in deserving cases. The Board of Revenue has submitted its report on this representation after consulting some Collectors. The Government are of opinion that the rules require amendment. They direct that no penalty should be charged when the amount of arrears does not exceed Rs. 10, and that when the arrears exceed this figure it should be left to the discretion of the officers to impose or not to impose the penalty. The Board of Revenue is requested to submit, at an early date, draft amendments to the revised loan rules mentioned in paragraph 2 of the Board's Reference read above.

The Channel Tunnel.

By A Paris Expert.

The revived discussion of projects for a Channel tunnel is being followed with keen interest in France. The various practical problems connected with the scheme have for some time been considered as solved. There seems to be no doubt that the necessary capital —about £15,000,000 would be the French share—could be raised at any time.

French opinion is all in favour of an early start. The site of the tunnel has long been minutely surveyed, and is shown to be naturally advantageous. Geologically the Channel bed is exceptionally favourable, as a continuous-stratum of impermeable clay lies between Calais and Dover at the requisite depth. The part of the tunnel which would lie under the sea could follow an almost straight and easy track. The nature of the soil would make the tunnel not only easy to bore, but, when once bored, safe and not difficult to drain. It is considered that the main difficulty in the boring —the disposal of the waste matter—would be overcome by a new and simple method devised by a firm of engineers with which the Ministry of Public Works is in close touch. The commercial advantages of the scheme are held to be very great. The question, "Why is it postponed?" is being asked more and more insistently.

French authorities whom I have consulted have all said that the scheme is held up because of the objections of the British Committee of Imperial Defence. Neither military nor civil authorities here understand this attitude. I am assured that the highest French Military authorities, after giving their own blessing to the scheme, have placed themselves in the position of the Committee of Imperial Defence and have been unable to discover any sufficient military reason for its veto.

Military Disadvantages.

It is true that if the tunnel were made it would probably be found necessary to equip it with means of cutting communications at a moment's notice and with defence works to cover its mouth. A certain amount of extra expenditure on such works, and on *personnel* to man them, would be necessary; but this expenditure would be small compared with the total cost of building the tunnel, and French expert opinion appears to have no doubt that this cost would be amply covered by the earnings of the tunnel within a few years.

When the Committee of Imperial Defence held a special meeting in 1924—at which were present not only Mr. Ramsay MacDonald, then Prime Minister, but the four former chairmen of the Committee—Lord Balfour, Mr. Asquith, Mr. Lloyd George and Mr. Baldwin—the reports from the War Office, the Admiralty and the Air Ministry were unfavourable to the Channel Tunnel. The scheme was found to offer few military advantages and "considerable military disadvantages". The Committee concluded that there was an "indisputable element of danger in the scheme". It would "add to the anxieties of those responsible for national defence," and would "involve permanent expenditure". At the same time the Committee was informed that the tunnel would "have little effect on the foreign trade of the country". It was stated that "only passenger traffic would be important," and that any increase in intercourse between France and Great Britain by way of the tunnel would be accompanied by the gradual extinction of the existing steamship services.

The French advocates of the tunnel reply that the military danger is remote. What, it is asked, could be more easily defended than a railway tunnel running under 20 miles of sea, to say nothing of several miles under land at each end? Twenty miles of sea water are no longer any protection against aircraft, or even artillery bombardment, and there are now so many easier and deadlier forms of attack than that of sending men along a tube that the fateful link with the Continent would not, in fact, destroy for England any military advantage which is not already lost.

Economic Benefits.

All the French experts seem certain of the economic advantages of the scheme, especially to Great Britain. They point out that, if the railway link with France were created, a stream of goods consigned from beyond the Atlantic to the European Continent would be deflected to Southampton and Liverpool from Hamburg, their growing rival. Owing to the natural advantages of the great British ports England would become at a stroke the western terminus of the whole European railway system. A very large *entrepot* trade, beneficial to British railways and seaports, might be expected to spring up. The possibility of sending British goods without transhipment all over Europe, Asia

and Africa would react favourably on their cost abroad and benefit British export trade. It is interesting to note, in this connection, that strong pressure in favour of the tunnel is at present being brought to bear on the French authorities from an official source in Madrid, which anticipates great developments from the combination of a Channel tunnel with the new tunnel through the Pyrenees.

The general view in France appears to be that the Committee of Imperial Defence has not examined the question on a broad enough basis. It is felt that the question of national defence should be considered not merely on positive but on comparative grounds. The French authorities cannot believe that the Committee of Imperial Defence was adequately informed of the commercial possibilities of the scheme. On purely military grounds the British authorities were perhaps bound to be unfavourable; but it is felt that they certainly should pay greater attention to the economic aspect. French opinion finds it difficult to believe that the whole problem was adequately reviewed in the course of a meeting which lasted only 40 minutes, and it hopes for an early change in the British attitude.

I have been repeatedly assured that it is no longer anticipated that any of the technical difficulties of constructing the tunnel will be found insuperable. The evacuation of waste material has hitherto, as I have already said, been considered the chief problem. But by the newly invented process waste matter would be ejected under pressure on to the Channel bed itself, through vertical borings made at intervals, instead of as has hitherto been supposed, into an extra gallery bored alongside where it would be mixed with water and pumped out. It is said that the method has worked satisfactorily on a smaller scale, and, if adopted, would reduce by half the necessary time and expenditure.

A Railway Exhibition.

The rectangular ground to the north of the Assembly Chamber, which, till last year, has been the repository of rubbish heaps and which will soon be transformed into a landscape garden, has been got ready for holding a most interesting and instructive exhibition, almost the first of its kind to be held in India. It is being run entirely by the Railway Publicity Department, which has already done much useful work as a public utility organization, and an useful adjunct to the Railway Department. That such an exhibition should be held at all is a proof that its importance is recognized. There are several striking features, such as a complete layout of the mechanism of a modern railway and collection of posters issued by the different railways illustrating the enormous grandeur, beauty and colour of tourist cars in India. The exhibition will also falsify to a large extent the idea of the critic that the Railway Administration is not generally run on commercial principles. That it does everything with an eye to business the exhibition makes it abundantly clear.

Railway Training College.

The exhibits collected at New Delhi will illustrate something of the recent activities of the Railway Department towards progress. There are a number of training schools now in existence throughout the country at which railwaymen already in service are given intensified training in higher duties to which they can aspire. Over and beyond this the Railway Department is erecting at Dehra Dun a college for the training of Officers, such as exists nowhere else in the world. The architects' plans of this building will be seen at the exhibition and details will be available of the educational methods of the Railway Department. A model railway in actual working by the students themselves will illustrate how teaching is done and the step taken to educate them. This model railway is one of the most efficient in the world.

Cinema Films.

Cinema films will be another important feature of the exhibition at a conservative estimate. 32,00,000 people have viewed cinema shows on Indian State Railways. The extent of the work done by the Government of India Railway Department may be judged by the fact that during the short time that film production was carried out departmentally by the Publicity Department a sufficient number of films had been produced twelve times the primeter of the city walls at Delhi or 60 times the length round the walls of Agra Fort. It is seldom that a cinema studio produces more than four or five films in a year. The Railway Department claim that with the small staff

appointed for the purpose, and literally "making bricks without straw" they have been able to produce no less than 53 different films within a short space of time. Close on 100 of these films have been supplied for railway cinema cars or sold to other Government or quasi Government Departments.

FILMS ON AGRICULTURE.

Lord Irwin's initiative in improving the conditions of the rural population has engendered a widespread interest in the welfare of the ryot, and the Railways of India along with other Departments are bearing their share of the good work that is being accomplished. A Publicity Official declared enthusiastically: "India has achieved in the field of cinema film something which no other country in the world can lay claim to. The Railway Department has brought to perfection one of the most remarkable organizations for exhibition of films to be found anywhere in the world. The channels of cinema propaganda, cinema education and cinema entertainment have been developed in rural India beyond anything that England can approach. No railway in England has yet produced a film departmentally, and nowhere in Britain has a great railway combined with the Board of Agriculture to help forward the cause of agriculture by the propagation of scientific knowledge and modern practice. Yet this has been done in India with advantage to the welfare of the country as a whole and ultimate pecuniary benefit to the railways themselves.

DEMONSTRATION TRAINS.

Since the prosperity of the railways is bound up with the prosperity of the agriculturist demonstration trains have been another method adopted by State Railways as a means of carrying on their good work. Demonstration cars on these trains contain full size models of agricultural implements. The Publicity Exhibition at New Delhi will show something of the work accomplished by these demonstration trains.

The Exhibition will also show a great deal of the amenities provided for third class passengers and pilgrims. In recent years extensive steps have been taken by the principal Railways to enable third class passengers to travel under better and healthier conditions. Improvements were made on all railways for the provision of a [illegible] water. Modern met[illegible] in arranging for the [illegible] attending fairs and [illegible] particularly the case in connection with the last Kurukshetra *Mela*.

THE EXHIBITS.

Among the many interesting exhibits will be locomotives and vehicles of various types to be run on the grounds on a special broad gauge siding. Among the locomotives will be found "Faire Queen", which long ago ceased its active work and which will compare with the latest type steam locomotive known as the "XB" type. Alongside of it there will also be a latest model electric locomotive, furnishing an idea of the most modern practice in haulage. A cinema car will be shown as also an old four-wheeled third class carriage, a new standard third class carriage and a standard intermediate carriage. There will also be a dining car from which teas will be served and a bogie truck containing an electric generating set as used for lighting fairs and *melas*.

The "Safety First" campaign has received very strong support from Indian railways. This will be fully illustrated at the Exhibition. "Conducted tours," "students' special" and special trains at Christmas and Easter will be illustrated. There is a remarkable demand for students' specials, and the efforts made by Indian railways to benefit the student community have met with an exceptional measure of appreciation. Pictures and photographs will be shown illustrating what has been done in this direction.

WORLD-WIDE PUBLICITY.

The other exhibits will be "the Important works" now in progress on Indian railways. "Locomotives, old and new, bridges, old and new, places of tourist interest in India, Local Advisory Committees, special trains of Indian railways, the new North to South route, the agricultural products of India" etc. The remarkable manner in which India has been made known to the world will be illustrated in a map showing how world-wide publicity had been obtained for the attractions of India as a tourist ground of unique fascination. The fact that Americans spent last year (as stated in the *New York Times* recently) no less than 9,40,000,000 dollars in travel outside their own country illustrates to railwaymen how worth while it is to endeavour to attract to India [illegible] worthy tourists, who bring money into [illegible]ountry, benefiting not only the railways [illegible]lso the trading community and industries [illegible]lly.

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Use of Famine Fund.

In 1925 Government of Bombay announced that it was their intention to utilise money from the Famine Fund, both departmentally and through municipal and local agencies, in carrying out works of permanent utility, instead of using such funds for purely famine relief works for the purpose of finding employment only. Apart from a scheme of fodder storage, designed to build up reserves of kadbi and of grass, it had been decided to make provision for village water supply, both for irrigation and for drinking purposes, by the construction of bandharas (bunds on streams) and tanks in favourable localities. An officer from the Public Works Irrigation Department was put on special duty to investigate these questions and he is now known as the Special Engineer, Minor Irrigation Works. He has under him a staff of three assistant engineers, eight surveyors and 32 assistant surveyors, which is sufficient to admit of survey work being carried out in all the districts of the Presidency where this is necessary. The majority of the staff are graduates in engineering.

In his report for 1928 the Special Engineer says that steady and efficient work was achieved during the year. Investigations were in progress in the following 13 districts of the Presidency—Ahmedabad, Kaira, Panch Mahals, Broach, East and West Khandesh, Nasik, Ahmednagar, Poona, Satara, Sholapur, Bijapur and Belgaum. The only tract in which no investigations have been commenced is the scarcity tract of the Dharwar district, but it is hoped that some schemes will be investigated and ready for detailed survey after this year's monsoon. During the year 113 additional proposals were received for investigation bringing the total number of proposals to 1,627. The schemes under investigation during the year numbered 236, of which 117 were found impracticable and were rejected. Twenty-five schemes were submitted to Government during the year. Twelve projects were approved administratively and 13 were sanctioned for construction. At the present time 16 projects are under construction, most of them bandharas and irrigation tanks. In addition, 34 complete projects have been prepared for village water supply, many of which are situated in the Bijapur district.

Discussing the needs of the districts mentioned above the Special Engineer points out that the chief demands for the Ahmedabad district are village water supply and drainage. There are few new sites suitable for irrigation tanks in Gujarat, except in the Panch Mahals district where several projects have been prepared in the past, some of which could be constructed if there were a genuine demand for irrigation water. In the Kaira district conditions are very unfavourable for further irrigation tanks, and with the exception of improvements to some of the existing tanks little can be done. In Broach there is a considerable demand for drainage schemes and much scope for reclamation. In the Deccan considerable progress has been made with bandharas and irrigation tanks. In the Ahmednagar district alone five bandhara schemes and two tanks have been completed and three tanks are under construction. The most important projects under preparation in this part of the Presidency are the Odal, Khirdi Sathe and Parsul tank projects in the Nasik district and the Ghagargaon and Palasdeo tank projects in the Poona district. The demand for investigation is as keen as before, and although some hundreds of schemes have been investigated, new proposals are being received in sufficient quantity to keep the number of investigations to be made an ever-increasing quantity. As regards the Southern districts, many village water supply projects have been prepared for the Bijapur district where there are few suitable sites for irrigation tanks. Bandharas on the few nalas which have a post-monsoon flow are likely to prove successful, but the most promising source of irrigation in this district is the construction of pick-up weirs on the large Malaprabha and Ghataprabha rivers. Irrigation tank schemes in the Sholapur district have been successfully investigated, and during the coming year it is hoped that some of these schemes will be under construction. Government have approved the preparation of a project to complete the Budhihal tank, on which a considerable sum was spent during the famines at the beginning of this century. Preliminary investigation shows this to be a promising scheme, the completion of which should protect the greater part of the Sangola taluka. It is gratifying to note that from the few schemes which have been completed and have come into operation excellent results are being obtained.

Indian Trade during 1927-28.

By P. Rajaratnam.

A steady and favourable monsoon resulted in a good progress in the trade of India in spite of the occasional bad seasons that cannot at best be avoided. Both the imports and exports have reached the figures of basic pre-war year 1913-14, on the basis of the declared values in the latter year for the first time after the war. The low pirces of most of the imports have been especially marked; the divergence between the index numbers for imports and exports has been very nearly abridged whereas during 1926-27 they were wide apart by 12. The result is of course due to the remarkable fall in the prices of imports owing to the stabilization of currency and exchange in the principal countries of the world and the resumption of the normal lines of production with greater vigour by belligerent countries. The problem of Reparations stands in the way of Germany recouping her trade. It is to be hoped that a definite and equitable solution will be arrived at. Now even the layman knows that the requisites for good trade are also prosperous neighbours. If their resources are crippled nothing is gained. As usual there is no change in the balance of trade in favour of India, it being to the extent of Rs. 50 crores. As was to be expected the general trend of world prices was in the downward direction.

Cotton goods valued at nearly Rs. 72 crores being nearly 29 per cent of the total imports of merchandise, occupies the foremost position in the imports. Here is something of a shocker to the ardent prohibitionist and the luxury boycotter in India, the liquor and tobacco imports have risen in value, the first by Rs. 14 lakhs and the second by Rs. 35 lakhs. The cry of prohibition has not apparently had any effect on India considering the way we import these super-luxuries. A very satisfactory feature of the Indian mill production is the increased manufacture of yarn; nearly 2 million lbs. of the higher counts of yarn was arrived. The inference out of this naturally is that foreign yarn of the higher counts will have some difficulty in future in figuring large amongst India's imports. The result of the lessening of the custom duties on motor cars has as was expected resulted in increased imports; reaching a figure that would be record but for the bumper year, 1920-21. We come across a sorry spectacle when we see Rs. 15 crores worth of sugar imported in to India. Surely there is a hitch somewhere having in mind the amount of sugar we produce ourselves. Though the imports have actually lessened sugar manufacture in India has not correspondingly risen; the lesson out of this is that better methods of production should be adopted. The Dollar land still reigns supreme in the oil world, contributing about half of our oil wants, Persia coming next. The efficacy of tariff walls has proved in the decline of import of matches though Sweden has recovered her old position of vantage. In fact she has established her own factories in India to evade customs duties.

"PUSSYFOOT" JOHNSON

Arrived at Bombay 3rd March, 1928 and is touring in India in the cause of Prohibition.

In items of export jute and jute manufactures as in past years take first place, the second being taken by raw cotton which accounts for 15 per cent of total exports. Cotton manufactures take a very poor place in Indian export trade being only nearly 3 per cent of the total. Mill owners must take to their hearts the suggestions tendered in the Report of the Trade Mission. One of the reasons assigned in the Report for the slow progress made by Indian goods exported is the high value of the goods compared to the average value of imported piece-goods.

The trend of trade is more or less akin to the

preceding year. Our imports from U. K. is more than we export so that we are indebted to the extent of Rs. 37 crores on the score of balance of trade alone. The imports of Railway plants from Great Britain is the greatest of all countries because she directs our Railway policy. Two of our best customers are U.S.A. and Germany. They take goods worth Rs. 37 crores and 32½ crores respectively.

The balance of trade in favour of India has increased to Rs. 82 crores and this excess was balanced by the import of treasure valued at Rs. 32 crores and odd; the rest was cancelled by Council Bills and remittances of sterling, etc., to the extent of nearly Rs. 38 crores leaving thus a final balance in our favour of Rs. 12 crores. Gold and silver are imported on the average just like the average pre-war figures. The Trade Commissioner in his Report for 1927-28 expresses a hope that the recovery of British share of India's imports which is a marked feature of the year will be maintained in the future. He draws attention to the fierce and intense competition of foreign nations and advises British manufactures to make a systematic effort to meet this. The Report refers also to U. S. competition in machinery, motor cars and electrical apparatus, to the advance in the value of piece-goods from Japan and increased competition from Belgium in iron, steel and railway material. The remedy suggested is revised methods and organization of marketing to which the majority of concerns are still indifferent. The apathy of the producer with respect to the distribution of his goods by advertisement and other propaganda is also stressed. The Trade Commissioner views puzzles as to whom he is speaking. It is easily understood whether he speaks in the interests of Indian or British trade. Revival of imports need not be a patent index pointer to prosperity. And increase of exports of raw materials to other manufacturing countries is hardly a matter of joy and contentment. What we intensely desire in India is that we must consume our own raw products instead of importing finished products of the self-same and raw materials. What we want in India is not increased exports and imports but the retention of raw materials and our making finished products out of it without the destructive foreign aid.

The Anglo-Indian Educational Question.

By An Anglo-Indian.

There seems to be much discussion at the present time (1) as to whether or not the Cambridge Locals should be given up, and the local University Entrance Examination (Matriculation, or School Final or High School) adopted instead; and (2) as to whether or not Anglo-Indian Education should be centralized.

I humbly submit the following for consideration:—(a) The fees for the Cambridge Local Examinations are very, very high. That for the Preliminary is about Rs. 12; that for the Junior about Rs. 15; and that for the Senior about Rs. 25, plus a local fee of Rs. 10. The total about Rs. 62. Average financed families feel paying this amount very much—especially when it has to be repeated in the case of a failure. (b) The adoption of the Cambridge Locals in India means an annual loss to Indian Universities of between four and five lakhs of rupees each year. India has to bear the cost of aiding her schools from the start to the finish; and just when she might be given a tiny recompense in the shape of Examination fees, she is shamelessly deserted and Cambridge espoused—the Entrance fees go to Cambridge. Is this fair to India? (c) It is an undeniable fact that the Cambridge Locals do not prepare students for a further University Course in India as the local University Entrance Examinations do. Very particular attention must be paid to the fact that a candidate may secure a Senior Cambridge certificate without passing in English at all. This seems incredible; yet it is a fact. Scripture, or some other subject may do instead. The Indian University Entrance Examination makes English compulsory. (d) The Indian University Entrance Examination with its present up-to-date syllabus, is quite a good examination, and not a mere crammer's test as some try to make it out to be. Candidates who have passed this examination have subsequently graduated here, and passed high examinations both in England and elsewhere—even the I.C.S. and I.M.S. "By their fruits you shall know them." (e) The retention of the Cambridge Locals is highly calculated to promote communal tension between Anglo-Indians and Indians—a very undesirable thing at the present time in India. (f) Anglo-Indian boys and girls would get through the Indian University Entrance Examination with far greater ease than they can get through the Cambridge Local Examinations. Thus, they can be induced to take to higher education—an

perative thing to-day: otherwise, failing to ... the Senior Cambridge after two or more ... (even when a worthless selection of sub-...s is made)—only serves to water down their ...n for study, and to throw them out on the ...rld, practically crippled. (*g*) India is fast de-...oping as an agricultural and industrial coun-... It would be highly beneficial and practi-... for Anglo-Indians to qualify in science, ... Physics and Chemistry. But, alas! the ...bridge Syndicate have *finally* decided to ...allow Physics and Chemistry as a regular ...ect for schools not sufficiently equipped ...th a laboratory, apparatus, etc., according ... their demands. These demands are very ...h. The matter to be gone through is also ...y stiff for our *average* boys and girls. The ...dian University Entrance Examination al-...ws the selection of physics and chemistry; ...t the course prescribed is well within the ...ntal limits of Anglo-Indian children. (*h*) ... the *Anglo-Indian Review* of July, 1927, ...lonel Gidney appears to stand for the giving ... of the Cambridge Locals, and for the adop-...n of the local University Entrance Examina-...on instead. In the same number Mr. W. J. Burgess stated that the Cambridge system had ... benefited the community. The Christian Brothers are reputed educators. They have worked much among Anglo-Indian children. ...d what have they done at Calcutta? They ...ve given up the Cambridge Locals altogether, ...d have taken up the local University En-...ance Examination instead. And why? Let ... quote the words of Mr. F. P. Lillis (Princi-... St. Joseph's College, Calcutta), pregnant ...h meaning: "Let us have done with all cant ...out superior education, and superior systems ... examinations, and do what is *best* for our ...glo Indian boys under existing circumstan-... A strong stand might be made by certain ...hers for the continuation of the Cambridge Locals. But this might be due to the fact that ... teachers do make money by private tui-... which some pupils must be given if at all ...y are to get through. It is not fair to sacri-... the educational welfare of students and the ...kets of parents—some of them with large ...ilies—that the nests of a certain class of ...chers might be well feathered. (*i*) When we ... a system of Universities in our mother-...ntry, why should we give them the go-by ...gether, and regulate our education by the ...ndard of a foreign or non-Indian Syndicate? The result of such a procedure has been ...thing disastrous for the Anglo-Indian ...mmunity. We are practically cut off from universities of our homeland and, as the result of the absence of higher education, are drifting, decade by decade, into the lower walks of life. (...) This procedure has also the very undesirable effect of making the Indians look upon us with distrust and apathy. We are bound to pay, sooner or later, for our policy of remaining aloof from the others. (*l*) With Indianization so rapidly on, the real advantages that the Cambridge Locals give us are so small compared with the disadvantages that, the sooner we give them up, the better will it be for us.

The following are the points in favour of the local University Entrance Examination. I choose the Nagpur University for illustration as it is about the middle of India.

(1) The Examination fee is only about Rs. 15. Compare this with the total Rs. 63 that the securing of a Senior Cambridge costs. And what shall we say when the amounts making up the Rs. 63 have to be paid over and over again in case of failure to pass the first time?

(2) Candidates may appear in one or more subjects only at a time.

On failing in one subject only, the candidate is required to appear in that subject only again, in order to secure a certificate for having passed the whole examination.

In the face of the facts I have put forward, I dare say there is not one Anglo Indian but will say: "Let us give up the Cambridge Locals, the sooner, the better; and let us adopt the Indian University Entrance Examination (or High School or School Final—call it what you like)." The salvation of our community will be effected—at least from a material point of view—only by carefully using what money we have to get, and by giving our children a good education—higher education, in India, on Indian lines, and for purposes suiting conditions in India. Otherwise..........!!!

As to the centralization of Anglo Indian education, there is no need whatever for it. If pride and prejudice be set aside, the difficulties that present themselves (not only for Anglo-Indians but also for Indians) can very easily be solved. There exists at present an All-India University Board. Well, let there be also established an All-India High School, or School Final or University Entrance Examination Board. Its members can draw up a uniform course of studies for all India. This course can then be imposed upon all High Schools in the country. English should always be one of the compulsory subjects serving as one of the bonds of union between India and the rest of the Empire. Due consideration should also be made for Science—Physics and

Chemistry. Such an arrangement would suit all—not only the Anglo Indians. but also the Indians, who, like the Anglo-Indians, are liable to a transfer from one end of India to another. This question of a uniform High School course for all India cannot be too strongly pressed; and I hope something solid will be done in this direction. I am an Anglo Indian. I have taught Indians, Gaons, Anglo-Indians, Europeans, Jews and Parsis for nearly twenty-five years: preparing them for the Indian Matriculation, the European High School and the Cambridge Local Examinations. And all my experience points to this, that the examination best suited to each class of pupils, and to them all, as citizens of India, is the University Entrance (or School Final. or High School—call it what you like) examination. I offer these remarks with all the good-will possible to my fellow-Anglo-Indians, as their sincere well-wisher. If my community will not accept me as such, then to them I say: "Fas est et ab hoste doceri".

27th Session of the Economic Committee.

Sub-Committees in Session.

League of Nations, Geneva, January 1929.—The Economic Committee held its 27th Session from the 15th to 19th January. Before the opening of the Session the Sub-Committees were called together, and the experts on the coal question met for consultation.

M. Trendelenburg (Germany) will preside over the Committee during 1929 in the place of M. Serruys (France) who was Chairman during 1927. The Committee elected Sir Sidney Chapman (Great Britain) as Vice President.

A passage of special interest in the proceedings of this Session was the study of the most-favoured nation clause, which involved a study of the doctrine of commercial policy formulated by the International Economic Conference of May 1927. Further, the Committee again considered the possibility of taking collective action with a view to reducing Customs tariffs. In this connection a preliminary study was made of measures which might be taken for the suppression or reduction of tariffs on aluminium and cement. In addition, the Committee examined the progress of the enquiries into the questions of coal and sugar with a view to determining whether international action might be opportune to relieve the present crisis in these two industries.

The Committee decided to call a conference on the treatment of foreigners for November next.

Commercial Policy.

The Report presented by the Session of June 1927 of the Economic Committee to the Council* recommends that the question of the most-favoured-nation treatment be studied.

During its recent Session, the Committee reached certain conclusions with respect to the most-favoured-nation clause in Customs questions. From this point it went on to discuss the difficult question of the relation between collective agreements and the most-favoured-nation clause appearing in bilateral agreements, with a view to making a special report to the Council on this point.

The basis for all these studies lies in the resolutions drawn up by the Economic Conference of May 1927, which recommended that the most-favoured-nation clause be applied as widely as possible; that the scope of this clause be defined as liberally as possible, and that the clause should not be weakened or limited by conditions or interpretations. The Conference had further recommended that the Economic Committee should proceed to enunciate the principles which would govern the interpretation and scope of the most-favoured-nation clause in connection with Customs duties and other charges.

In its Report to the Council on the most-favoured-nation clause in Customs questions, the Economic Committee defines the fundamental principles which are, in its opinion, implicit in the conception of most-favoured-nation treatment. It declares that this treatment should be unconditional and that the most-favoured-nation clause should be unrestricted in its application to the whole of the tariffs of the contracting countries. These two conditions are essential if the two contracting States are to be assured of the most favourable treatment which can be reciprocated in Customs questions.

The Report goes on to define what is to be understood by Customs questions for the purposes of most-favoured-nation treatment. The term "Customs questions" includes the scales of Customs duties and the methods of levying them, *i.e.*, import and export duties, supercharge coefficients where they exist, and subsidiary charges of every sort levied on

* See *The Monthly Summary*, Vol. VIII, No. 7, page 205

imports and exports. The term also covers all the rules, formalities and charges inseparable from Customs operations of every description.

Then follows an analysis of the complex question of the application of most-favoured-nation treatment with respect to import and export prohibitions. The Report points out that when the Geneva Convention (November 8th, 1927) for the abolition of import and export prohibitions comes into force, this question will lose all practical interest. It recalls the provision of this Convention that in the case of certain prohibitions and restrictions which may have been imposed as exceptional measures, States must not exercise any discrimination contrary to the equitable treatment of commerce. Further, it refers to the provisions of the Convention for the simplification of Customs formalities (1923) concerning licences. In principle, it adds, the model most-favoured-nation clause (which appears later in the Report) must not admit of prohibitions. However, for certain prohibitions which are of the nature of economic measures and are maintained only as a temporary measure, it would be desirable to continue to follow in so far as possible the interpretations which are at present accepted as defining the application of the clause.

The question of the application of the clause with regard to temporary imports and exports, and particularly, with regard to the so-called "finishing trade" (*active* and *passive*) also comes in for detailed analysis in the Report. For temporary imports and exports in the true sense of the term the Report declares that the clause is applicable. It applies to the *active* finishing trade, however, only on the understanding that when the laws of a country make this trade dependent upon an administrative decision, the right of the competent authorities to take a decision in each particular case is in no way affected thereby. As for *passive* finishing trade, the Rapporteurs declare that in view of the diversity of opinions and of system existing in this field, they did not feel able to advocate the application of the most-favoured-nation treatment. They indicate, however, certain cases in which this treatment can scarcely be refused.

After thus determining the scope of the clause, the Report proceeds to make clear the essential characteristics of goods which qualify for most-favoured-nation treatment. These goods, it declares, must have their origin in the country which enjoys the most-favoured-nation treatment, and they must be "like products" in the sense that they must possess the characteristics which entitle certain goods to a given Customs treatment. These two conditions (origin and similarity) are exhaustively reviewed. The conclusion is that certain stipulations are clearly incompatible with the most-favoured-nation clause:

(*a*) Provisions which restrict Customs privileges to products of a particular country or district simply because they originate in that country or district, thus ruling *a priori* that no other country can produce products similar to those which it is sought to favour;

(*b*) Provisions which make similarity dependent upon entirely external characteristics or conditions which, by the very nature of things, only the products of given countries can possess or fulfil.

Having stated the essential principles implied by the most-favoured-nation clause, its field of application and the objective qualification which goods must possess to quality for most-favoured-nation treatment, the Report proceeds to define certain exceptions which must be admitted to the clause. In this connection certain situations are analysed, in particular those resulting from a Customs union between two countries, from traffic between frontier zones, or from certain special concessions which some countries grant one another on account of the special ethnic, historical, geographical or other ties which unite them. It considers as well the application of the clause to the colonies of the contracting countries.

Finally, the Report deals with the wording of the clause. After having indicated various types of wording which are already in use, and weighed the advantages and disadvantages of each, it concludes by submitting a model wording. This can be adapted to meet special circumstances but is, as it stands, sufficiently explicit to reduce differences of interpretation to a minimum.

The Committee proposed that the Council should communicate to the different countries (whether or not they are Members of the League) the results of its work, both as regards traffic and treaty making policy (*i.e.*, the Report which it drew up in June 1928), and as regards most-favoured-nation treatment in Customs questions (*i.e.*, the Report presented as a result of its present Session). The Council, too, should express the hope that in their commercial policies and in drafting their bilateral treaties, Governments will follow the principles laid down in the Reports in question. Governments should also be asked to forward to the Secretary-General of the League of

Nations any observations they may wish to make concerning these principles.

The Committee further requests the Council to inform the different States, when communicating the two Reports, that the Committee has not neglected to study also the question of the effect on the obligations which the clause involves of undertakings entered into in virtue of collective agreements. As regards this question which is of particular importance at a time when the League is proceeding to draw up such collective agreements, the Committee hopes that it will shortly be able to submit to the Council the results of its studies.

Collective Action for the Reduction of Tariffs.

With regard to the collective action to be taken with a view to reducing customs duties on certain products, the Committee continued its study on aluminium and cement. With respect to the former commodity the Committee, being now in possession of information as to the situation of the industry in the principal countries interested in the matter, came to the conclusion that in the present circumstances it was expedient to continue the investigation.

As regards cement and the possible participation of the principal countries interested in a preliminary meeting of experts to make a joint study of the principle and methods of concerted action in connection with tariffs on cement, the Committee is already in possession of information as to the attitude of many countries interested. It has, however, no information on the situation in certain countries which play an important part in the international trade in cement and it has therefore thought it necessary to postpone the study of this question to its next session in the hope that the replies not yet to hand will be received in the meantime.

The Committee hopes too, that by its next session it will have obtained information about possible action leading to the reduction of tariffs on the following products: half-finished steel products, wood pulp and papers, copper, fruits and fresh vegetables.

Coal.

The delegation appointed by the Economic Committee to institute an enquiry into the coal problem for the purpose of determining whether it might be opportune and feasible to take international action in the coal industry,* proceeded to a consultation with experts from 11 countries (producing and consuming countries, and those which import and export coal at the same time).

These experts were selected from eminent coal technicians who, without representing employers' organizations, occupied a position which enabled them to have a general view of all the aspects of the coal question—production, consumption, trade and transport.

The experts met from January 8th to 12th and examined reports furnished by various members of the Economic Committee on the coal situation in their respective countries. These contributions were studied, verified and elaborated by the experts who had been asked to give their opinion as to whether or not the League might usefully contribute to the solution of the difficulties which surrounded the coal industry at present. In the event of an affirmative opinion they were asked to suggest the direction and means by which they felt such a contribution could be made.

It is apparent that the experts were agreed in the opinion that the present situation in the coal industry constitutes an international problem, and that within the limits of natural forces the responsibility for devising the necessary remedies falls primarily upon those who are in charge of the industry, but it is equally apparent that certain aspects of the question as, for example, tariff questions and certain commercial methods, lie within the competence of the Economic Committee. Further, the whole question has a social aspect which may not be neglected, and finally there is the interest of the consumer to be considered.

At the conclusion of the consultation with the experts, M. Trendelenburg, the President of the delegation, declared that the Economic Committee would consider each question in the spirit in which it had been proposed and would attempt to relate it to the larger problems and the general principles of commercial policy. The consultation also brought out the fact that certain experts from producing countries felt that collaboration on an international scale would contribute to a solution of the crisis; other experts accepted this idea only with reservations.

The results of the consultation between its delegaton and the experts have convinced the Economic Committee of the usefulness and importance of this venture. It has decided to continue the enquiry by calling together labour experts on February 27th. The labour experts will be chosen as technicians of the coal problem in the following countries: Austria

* See *The Monthly Summary*, Vol. VIII, No. 10, page 347.

Belgium, Czechoslovakia, France, Germany, Great Britain, the Netherlands, Poland and Spain.

Sugar.

The Committee examined the progress made in the enquiry into the sugar question. Three memoranda were submitted to it: (*a*) a note by Dr. Prinsen Geerligs of Amsterdam, on the production of cane sugar; (*b*) a note by M. F. O. Licht of Magdeburg on the production of beet sugar; and (*c*) a note by Dr. Mikusch of Vienna concerning the influence of legislation on the production, consumption, import and export of sugar and on the development of consumption and the means of increasing it.

Taken together these papers reveal the fundamental idea that the present situation of the sugar industry throughout the world is essentially due to lack of equilibrium between production and consumption.

The Committee is of the opinion that it would be contrary to the role of the League of Nations to take any active part with the object of interfering with the natural development of production. It believes, however, that it would be useful to study the artificial measures which have influenced production and consumption with a view to adjusting this lack of balance. Accordingly it has appointed a delegation to make a preliminary enquiry into the sugar industry with a view to determining whether international action could be usefully undertaken and if so, by what procedure.

This delegation will proceed during the month of April to consult with experts from producing and consuming countries. The experts consulted should be, as far as possible, practical men of standing, occupying positions in their native countries enabling them to have an insight into all aspects of the sugar question, especially those concerning production of raw sugar, refining, sale and consumption. The Economic Committee has recommended that its delegation take its experts from the following countries: Belgium, Czechoslovakia, Cuba, Denmark, France, Germany, Great Britain, Hungary, British India, the Dutch Indies, Italy, Japan, the Netherlands, Poland, Portugal, the United States.

The Economic Committee has decided to consult at a later date experts specially qualified to deal with the subject of beetroot production.

Treatment of Foreigners.

During its present session the Economic Committee has considered the replies from a large number of Governments to the Secretary-General's letter asking them whether they would be ready to take part in a conference for the conclusion of a multilateral treaty on the treatment of foreigners, and inviting their observations on the principle and the provisions of the draft communicated to them as the basis of such a conference. The Committee decided, in accordance with its authority under the Council, to call a conference on this question in November of this year.

International Industrial Agreements.

The Committee has had recourse to information collected from a wide variety of sources on industrial and commercial agreements in force in various countries, as well as on agreements of an international character. It was also presented with a survey of the legislations and regulations concerning industrial and commercial agreements in the different countries. The Committee decided to submit the latter document to three legal experts, if possible of German, French and American nationality, and to ask them to verify and complete it. These experts were to endeavour to draw up as detailed and circumstantial a report as possible on the laws in force in the different countries, particularly from the standpoint at present adopted, as expressed not only in the legislative texts, but by jurisprudence and administrative practice.

With regard to the economic aspects of the problem of international, industrial and commercial agreements, the Committee decided to postpone to its next session consideration of a programme concerning the studies to be undertaken in pursuance of the recommendations of the International Economic Conference and also those voted at the First Session of the Consultative Committee.

Other Questions.

Various other questions came before the Committee during this past session, including the economic aspects of measures taken to control plant diseases; the exploitation of the natural riches of the sea, especially with regard to measures taken in connection with the hunting of whales; the economic tendencies liable to influence the world's peace; Government protection; the economic effects of smuggling, particularly with regard to alcohol.

The Committee was further informed of the results of the International Conference on Economic Statistics, and expressed its satisfaction with the fact that the Convention

resulting from this Conference has already been signed by 25 States.*

Following is a list of those taking part in the recent session of the Economic Committee:—M. Trendelenburg (Germany), President, Brunet (Belgian), Barboza Carneiro (Brazil), Serruys (France), Sir Sidney Chapman (Great Britain), Dvoracek (Czechoslovakia), Di Nola (Italy) Lindsay (India), Ito (Japan), Dolezal (Poland), Stucki (Switzerland), Eastman (U. S. A.); M. Morgenstierne (Norway) and Sommeruga (Austria) substituted for M. Jahn and Schüller respectively.

M. Curcin (Jugoslavia) and Nederbragt (Netherlands), corresponding members of the Committee, also took part in the work of this session.

* See *The Monthly Summary*, Vol. VIII, No. 12.

Economics in the West.

Channel Tunnel.

London, 26th January.—Members of the House of Commons who have been pressing that the Government should reconsider the official attitude towards the Channel Tunnel scheme are well satisfied with the announcement of the Prime Minister that there is to be a comprehensive re-examination of the question. As it happens the critics are also reassured by Mr. Baldwin's further statement that the Government is anxious for a decision on broad grounds of national policy in which the economic aspects will be weighed with the Imperial Defence considerations. They take this to mean that on the present occasion every aspect of the problem will be examined. Many sweeping statements have been made concerning the project, but what members of all parties in the House of Commons desire to know is whether there is any chance of the tunnel being a financial success which will not involve commercial ruin to the South Coast towns, assuming that the objections of the Committee of Imperial Défence can be overcome.

Good Citizenship.

In his speech at Worcester the Prime Minister referred to a matter that has often been discussed in these notes—the difficulty of getting young men to take up local public administrative work. Mr. Baldwin pointed out how seriously the War had depleted the nation of the young men who to-day should be taking important positions in every sphere of activity. Nothing can make that good until the next generation has grown up, and in the meanwhile most people's incomes have been reduced, taxation is far heavier, and it is more difficult for young men to give public service than was the case before the War. But Mr. Baldwin emphasized the fact that the country can only prosper if everybody, as the opportunity serves, lends a hand to help it along. He declared that there is no better way of lending a hand than by taking part in local government.

Political Parties and Safeguarding.

It is already perfectly clear that the question of safeguarding is to be one of the principal issues at the General Election this year, and the organizers of the Conservative Party have taken steps to make known the benefits which the system has already conferred upon selected industries. They have prepared a useful pamphlet, "Safeguarding, the Past, Present and Future," which contains in tabloid form information on parallel lines to that supplied by Mr. W. J. U. Woolcock in his recent articles. The pamphlet deals not only with the past, for it explains very simply the new procedure which the Government propose to adopt after the General Election to shorten and clarify the procedure in regard to applications for safeguarding. The volume of evidence produced as to the benefits of safeguarding where it has already been applied is impressive and equally striking is the information given as to the excellent effect of the McKenna duties.

Mr. Snowden's Position.

The pamphlet reminds the public that Mr. Snowden has stated in the House of Commons that at the first possible practical opportunity the existing duties will be repealed, and this may be one of the reasons that have made him so annoyed with the decision of the trade unions in the woollen textile industry to support the application for the safeguarding of dress fabrics. The political Labour Party is still committed to a policy of unreserved free trade, but Mr. Snowden and other leaders of the political section are becoming increasingly concerned at the tendency on the industrial side of the Labour movement to go into the question of safeguarding.

Empire Penny Post.

It is impossible to ignore the significance of the memorandum to the Prime Minister on the desirability of restoring the Penny Post which has been signed by the presidents of the Federation of Chambers of Commerce of the British Empire, the Association of British Chambers of Commerce, the Federation of British Industries, the London Chamber of Commerce, the British Federation of Traders' Associations, and the Chamber of Shipping of the United Kingdom, and the chairmen of the Committee of the Stock Exchange, the Baltic Mercantile and Shipping Exchange, Lloyd's, and the British Empire Producers' Organization. We do not recall any previous occasion on which a memorandum to the Prime Minister received such influential and representative support from the commercial world. In this paper it has always been urged that it is unsound to use postage as a means of taxation, and that as a general principle the profits of any public service should be used to improve facilities; in fact, the only possible justification for any other course is that in these abnormal times the Government cannot afford to forego any revenue. The memorandum undoubtedly merits the most serious consideration.

Anglo-Russian Trade.

There has been some interesting correspondence in *The Times* on the late Labour Government's proposed treaty with the Soviet Government. It is extraordinary how the assumption persists that this country is missing great opportunities to increase trade. It cannot be too often stated that the proportion of British export trade to the Russian Empire before the War was only about 2 per cent of the total, although those figures, of course, included trade with many parts of old Russia which are now independent States. There is nothing whatever to prevent British firms from trading with Russia if they are willing to take the risks of dealing there. Since Mr. Philip Snowden has recently stated definitely that Russia's repudiation of pre-revolution foreign debts and the confiscation of foreign property have created a feeling of distrust which must be removed before confidence can be restored, it is futile to pretend that the present British Government is creating obstacles to extended trade. Moreover, as Mr. Snowden very properly pointed out, Russia's purchasing power abroad can only expand as her internal production is developed.

Balance-Sheet Improvements.

Though progress towards the complete adoption of the bank balance-sheet reforms recommended by the Cunliffe Committee 10 years ago has been exceedingly slow, there are growing signs that bank directors are becoming increasingly aware of the desirability of rendering their balance-sheets more informative. Lloyd's, of course, is the one bank which has fully adopted the recommendations. In other directions, the Midland and Williams Deacon's have separated acceptances and confirmed credits from endorsements and other obligations. Further progress in the direction of more information is to be noted in the latest series of balance-sheets, the District Bank now dividing its acceptances and confirmed credits from its endorsements and guarantees, while the National Provincial now gives its bill holding in three sections—namely, Treasury Bills, bills payable by British firms and institutions in the United Kingdom, and other bills. This shows that 65 per cent of the bank's total bill holding consists of Treasury Bills. On the other hand, it was disclosed at the meeting of the Midland that out of a total portfolio of £63,347,503 Treasury Bills represented £14,750,000. With the excellent example set by the Bank of England in its reorganized weekly statement, there should be increasing readiness on the part of the joint-stock banks to give the wider analysis of several of the balance-sheet items recommended by the Cunliffe Committee.

Midland Bank's Advances.

One of the most interesting passages in Mr. McKenna's speech to shareholders of the Midland Bank this week was that in which he disclosed the proportions in which the bank's advances were distributed among the various industries of the country on June 30 last. The following table, which shows the percentages of the total advances absorbed by different industries, is compiled from the figures he gave:—

	Per cent.
Textile industries	$12\frac{1}{4}$
Building and land	$11\frac{1}{4}$
Wholesale and retail traders	$11\frac{1}{4}$
Advances on stocks and shares	$8\frac{3}{4}$
Finance and insurance	8
Iron and steel, engineering, shipbuilding, etc.	$7\frac{3}{4}$
Agriculture	$6\frac{1}{2}$
Professional and private advances	$6\frac{1}{2}$
Food, drink and tobacco	6
Leather, rubber and chemicals	4
Miscellaneous, including newspapers and paper manufacturers	4
Local authorities and public utilities	$3\frac{1}{2}$

	Per cent.
Shipping and transport	$3\frac{1}{2}$
Coal	$2\frac{1}{2}$
Entertainment companies, churches, hospitals, schools, etc. ..	$2\frac{1}{2}$
Sundry	$1\frac{3}{4}$
TOTAL	100

Mr. McKenna stated that almost the whole of the amount advanced to the textile industries was lent to the cotton and wool industries in roughly equal proportions, silk and other textiles accounting for only a very small part. He thought there were grounds for the hope that the cotton industry will see better conditions in the future. In view of the marked activity in the building trade all over the country in recent years and of the fact that heavy and prolonged expenditure is often involved, particularly in large-scale development schemes, it is, as he said, hardly surprising that the figure for this industry is high. It includes temporary advances for investment in houses and land and for the purchase or construction of houses for the buyers' own occupation, but the larger part of the money was lent direct to builders, contractors, brick-makers and others. More than two-fifths of the total lent to wholesale and retail traders were advanced to retailers with a single place of business. The bank had 31,000 loans of that particular character outstanding, and the average amount was only £330. As to the $6\frac{1}{2}$ per cent of the bank's advances made to agriculture, Mr. McKenna said that while some of the money was lent to assist in the purchase of farms, the larger part was made up of temporary advances for ordinary farming operations. The average amount of individual loans for financing agricultural requirements was less than £500. He stated that only an insignificant proportion—less than $\frac{1}{2}$ per cent—of the bank's total advances is extended to undertakings operating abroad. Dealing with the advances on stocks and shares, Mr. McKenna said that the bank discouraged loans which were clearly designed for a speculative purpose, and he added that a strict analysis of this class of loans would show that a high proportion represented part of the necessary equipment of production and trade. The Midland Bank's total loans and advances were on June 30 last extended to more than 180,000 borrowers, the average amount of each advance being about £1,200.

ON LETTERS AFTER ONE'S NAME.

Lord Hewart's comment in a recent case about societies which create "Fellows" on the payment of a subscription has naturally aroused attention.

"The Council of the Royal Geographical Society has done well to reply to the criticism made in the course of a recent law case as to the use of the letters F.R.G.S.," says the *Guardian*. "It is true that a fellowship of the society is mainly a matter of payment, but the council satisfies itself that applicants are interested in the objects of the society, and some are rejected as ineligible. As the objects of the society are excellent and conducive to the promotion of sound learning we see no harm in its members being allowed to label themselves. We all have our little vanities, and we doubt whether any fellow of the Geographical Society could persuade many people that his fellowship implied any great degree of eminence in science. As a matter of fact those eminent in science do not use the letters—most of them have others of more significance.

The council suggests that the letters can be used legitimately in works of reference: in other circumstances good taste should be the guide. The degree of M.A. Oxford is a fairly close parallel. For those qualified by a bachelor's degree and the passage of time, mastership in arts is simply a matter of a cheque, and for that reason most of us do not put M.A. on our stationery or after our signatures."

"Experienced letter writers," says the *Times*, "who would never forget D.D. or M.D. have doubts whether any other kind of D. will please as part of an address; like M.A. it suggests on an envelope a lack of social experience in the writer. The world in truth is not ripe for most of the collocations of letters which can be made to stand for membership of a body. It is quick to read vanity, and even imposture, in the man of many letters. Too often, if the flaunters of letters knew it, the initials suggest either that half-world of charlatanry which lies on the borders of many honourable professions and callings, or else a desperate attempt to make the best of poor qualifications. It is the same with much other matter which men allow books of reference to say about them. The book could not have discovered these curious facts for itself; therefore they must have been given. They, too, tell a tale like the letters; but the public as it turns the book over is not deceived. It distinguishes, by an instinct of its own, between the publicity which is enforced upon greatness and the self-advertisement of the microcosmic."

"Most people know," asserts the *Evening Standard*, "that to be a Fellow of the Royal Society is a very high honour indeed, and is

proof of great scientific distinction. But how is the layman, knowing this, to know also that a Fellowship of the Royal Geographical Society does not indicate something of the same sort? It is argued that the letters are useful in suggesting that the wearer has certain tastes, and, further, that he has done public service in supporting work of public interest by his subscription. But this would apply to so many other things to which it is not applied. Members of the London Library might have letters after their names to show a taste for books, or subscribers to a series of orchestral *concerts to show their taste for music*." The statement issued by the Royal Geographical Society well covers the ground. It concludes:—"The Council is satisfied that any Fellow is fully entitled to make use of the letters F.R.G.S. when he legitimately desires by so doing to call attention to the fact that he belongs to a Fellowship interested in the progress of geography. He would be quite justified, *for instance*, in using the letters in books of reference to show his scientific interests. The use of the letters in other circumstances must be guided by good taste. The title is not honorific; its purpose is not to convey a distinction, but to indicate a fellowship in the old established and customary *sense of membership of a scientific society incorporated* by Royal charter."

Canadian Trade and Finance.

Business Conditions in 1928.

Montreal, December 29, 1928.—To those who do not live in Canada and have no first-hand knowledge of conditions in the past four years, the statistics of the gain in Canadian production within that period will constitute a basis for optimism as to the future of the country. Canada has a population of less than ten million scattered over an area somewhat larger than that of the United States. It must be understood that these statistics of expansion represent accomplishments which have been attained in spite of a very slight increase in population. Fertile lands are waiting for the plow, great mineral deposits lie ready for immediate development, the manufactures are continually growing and the railways and transportation facilities pre-requisite to further expansion are already available. When the people of other countries realize the value of the rich resources which are ready for improvement, there will be an inflow of workers who will share in the rewards of the great expansion that lies ahead.

In 1924 the wheat harvest of Canada as a whole amounted to 262 million bushels and that for 1928 to 500 million bushels. Within these four years the area planted to the varied crops *of the country was two million acres in excess* of the acreage at the beginning of the period. The gross value of agricultural production in Canada is about two million dollars a year. The discovery of types of wheat which will ripen quickly has greatly increased the land area available for this crop. More than a million acres of the total increase in wheat land was in the province of Alberta and further expansion is probable in the Peace River Valley of Alberta and British Columbia. The period has also witnessed a 600 thousand acre increase in the wheat acreage of Saskatchewan and a slight increase in that of British Columbia.

When the time approached for the harvesting of the record crop of 1928, the British and Canadian governments co-operated in bringing 8,500 harvesters from Great Britain to the farms of Western Canada. The success of this experiment makes it probable that it will be repeated.

The value of the metallic and non-metallic minerals produced in Canadian mines during the first six months of 1928 was about $105 million compared with $84 million in 1924. Besides being the third country in the production of gold, and an important source for copper, silver, lead and zinc, Canada produces 90% of the world's supply of nickel and 85% of the total asbestos. Within the last three years there have been a number of outstanding mineral discoveries in the northern parts of Quebec, Ontario, Saskatchewan, Manitoba and Alberta. When the new mines in these areas begin producing, the rate of growth in the value of mineral production should be substantially greater than that shown during the period *mentioned above. The present is a period of* exploration and discovery, but the recent finds have been of such outstanding importance that there is no question but what a great period of mining development lies just ahead.

New Building.

The character of the building in Canada during the last few years indicates that preparations are under way for further increases in productive activity. In the first eleven months

of 1928 the total volume of building contracts awarded in Canada amounted to 453 million dollars as compared with 247 million dollars in the corresponding months of 1924. The amount of money spent for bridges, wharves, roads and streets and other engineering items increased from 5 million dollars during 1924 to 100 million in 1928; the value of the contracts awarded for industrial building increased by 300% and that for business building by 130%. These percentages contrast with a 56% increase in residential building. According to the statistics of McLean's Building Reports, the greatest increase in city building this year has been in Toronto where the total value of the contracts awarded in 1928 amounted to 50 million dollars as compared with 25 million in 1927, —these were ten month figures. There was more than 76% increase over 1927 in the value of the contracts awarded in each of the following cities: Halifax, Saint John, Sherbrooke, Hamilton, Fort William, Saskatoon, Regina, Calgary and Victoria. It is also encouraging to note that the value of contemplated new construction as derived from recent building permits and the fact that there are a number of large new projects about to be started would indicate that 1929 will be another good year for the Canadian building industry.

The growth in volume of manufacturing has been of even more importance than that in agriculture and mining. Although the statistics of the total value of manufacturing in 1928 will not be available for some little time, the fact that there has been an increase of over one million horse-power in the installed turbine capacity of the country and that the average amount of energy generated daily has doubled during the period, gives an indication of the advancement in this field. Low cost power continues to be an outstanding advantage for those manufacturing industries which locate in Canada.

The research work which was started about two years ago by the Dominion Department of Agriculture with a view to combating the rust scourge or to producing a rust-resistant wheat, is still progressing. It has been discovered that dusting with sulphur is effective in checking the disease. Experiments with sulphur dusting have been made in Southern Manitoba and what remains to be determined are the methods which are practicable from the viewpoint of cost. Twenty-six different forms of rust-spores have been traced by the investigators and the "Reward" variety of seed has been found to be more resistant of stem rust than most of the other common varieties.

It is estimated that there are now 4,700 country elevators throughout the West, having a capacity of approximately 156,000,000 bushels, as against 4,437 last year with a capacity of 147,000,000 bushels. The storage capacity at the head of the Lakes has been increased during the year from 73,000,000 bushels to 86,000,000 bushels.

Receipts of cattle for the period from January 1 to October 31, 1928 inclusive, show a decline over the same period last year; this supports the contention that North America is rapidly approaching the time when supplies of cattle will not meet the demand. Prices of stocker and feeder cattle during the past eighteen months have been most satisfactory from the viewpoint of the producer, and large numbers of yearlings and calves have been marketed, meeting with a good demand. Owing to a premature feeling that an acute shortage of cattle existed, prices during the summer and early fall of 1928 were disproportionately high and some price reaction resulted. Statistics from the livestock census of 1928 show that the number of cattle in Canada at the end of June, 1928, was about 400,000 less than the number in June, 1927. In this connection it is interesting to note that purchasers from the United States have been buying beef and dairy stock in all parts of Canada in anticipation of the growing need for cattle in that country.

There has been a remarkable increase in mixed farming in the irrigation belt of Southern Alberta. A large amount of fruit, such as plums, crabapples, cherries, strawberries, raspberries, etc., is now being planted on a number of these farms and the older orchards are giving an excellent yield. Alfalfa and alfalfa seed are becoming an increasingly important crop. Near Lethbridge, the northern irrigation district, dairying and hog and poultry raising were reported to have increased 100% during the past year.

Few Canadians realize that Alberta contains more than 14% of the world coal reserves, or 87% of the coal reserves of Canada. During the past year, between 50/60,000 tons of coal from Alberta were moved into Ontario and this experiment is to be continued during the next two years. Reports from the coal dealers in Ontario indicate that coal from the Lethbridge fields is giving wide satisfaction, and that it can be sold in competition with the hard coals imported from the United States. There has also been an increasing demand for Alberta coal from the Prairie Provinces.

It is estimated that 400,000 barrels of crude naptha and 80,000 barrels of light crude oil

were produced at the Turner Valley field. At the present time, at least 1,000 men are being employed at drilling and other work in the Turner Valley. Besides this, wells in the Wainwright, Ribstone and Skiff fields are making substantial contributions to the total output, and there are thrity-nine other wells now being drilled. Unfortunately, only a comparatively small amount of the natural gas produced is being utilized but this feature is receiving the attention of both the Dominion and Provincial Governments.

All lines of wholesale trade are reported to have shown a very satisfactory increase in the volume of sales as compared with last year. This improvement is largely attributable to the better crop conditions throughout the Prairie Provinces, and the fact that stocks of country merchants were very low. Hardware and electrical supplies report an increase of 10/30%; heavy hardware 20%; dry goods 10/15%; groceries 10%: mining machinery 25%: boots, shoes, etc., 10%; auto-equipment 30%, lumber and builders' supplies 20%. Automobile distributors report a reasonably good season, with sales slightly higher than last year. The increase in the sales of the implement dealers has been substantial.

Economic Notes.

The Dress Quality of Khadi.

Dr. Dharmvir in an article in the *People* refers to Khadi as the ideal dress for Indians. He bases his assertion on the following interesting and novel qualities that *Khadi* is said to possess. Khaddar has an uneven cellular texture. It thus holds in its meshes a considerable quantity of air which is warmed by contact with the body, and air being a bad conductor of heat, the column of unmeshed air together with the thick material, protects the body from cold. Khaddar thus gives warmth in winter. In summer the sun's rays are reflected considerably from the white material and are only very slightly absorbed. Khaddar prevents the penetration of the sun's rays to the skin and on account of the mesh, provides the free ventilation for air. Because of its spongy nature it absorbs a considerable amount of moisture which is rapidly evaporated by the heat and the free ventilation of air, with a consequent cooling effect. Khaddar is thus snitable in all weathers.

Match Industry in the Punjab.

The Government review of the report of the Forest Administration in the Punjab for the year ending 31st March, 1928, states:—The Match Factory at Shahdara continued to use poplar and chiefly kail logs. The price of kail has been going downward for the last three years and the factory was able to purchase large quantities of kail logs in the market. It is hoped that the Kangra Valley Railway will help in placing still larger quantities of kail and other timbers in the market for the match manufacturer.

Public Health in India.

The Annual Report of the Public Health Commissioner with the Government of India for the year 1926 has just been issued. Although nearly two years old it is a valuable index to the health of the people of India. After all the health of a nation is a vitally important matter to the State, whose business it is to see that the ravages of disease are held in check as far as is humanly possible. The health of the people of India was on the decline during the year under review compared with the year 1925. The death rates increased from 24.72 to 26.76 per thousand of the population, and the infantile death rate also increased from 174 per thousand to 189. Compared with the vital statistics for Europe and America these figures are very high, though of course sound reasons can be adduced to show the marked difference in the standard of living and medical attendance prevailing between India and the West. The report ascribes a very large number of deaths to fevers of various kinds. In fact more than half the total of deaths in British India during the year 1926 occurred from fevers of one kind or another. Malaria, as might be expected, takes a prominent place in the list, especially in Bengal and the United Provinces, though in the Bombay Presidency malaria mortality rate was also alarmingly heavy. Until a few years ago the term "fever" in an official report meant, perhaps, one of thirty different types. Now every death from fever is recorded correctly, and so it is possible to form some estimate of the incidence of fever diseases. This information should be of the greatest interest to those who are endeavouring to find a solution for lessening the number of deaths from fevers in India. The number of malaria cases treated in State and private dispensaries in 1926 totalled over two millions in Bengal, over a million and a half in the

Punjab, nearly a million in Behar and Orissa and the United Provinces, and roughly about 800,000 in Bombay. These figures represent only a proportion of the actual cases of the disease. Most of the provinces, realizing the seriousness of allowing matters to stand as they are without attempting to reduce the high mortality, have instituted preventive measures of one kind or another. In the United Provinces—particularly in the Sarda Canal area—a vigorous anti-malarial campaign was carried on, while both Madras and Bengal appointed malariologists and organized a definite programme of malarial surveys throughout the Province. The Bombay Presidency has been very slow in tackling the subject in spite of repeated warnings of the increase of the disease from eminent medical men. Twenty-nine subordinate medical service officers have been placed on special duty to distribute quinine but that is hardly sufficient to deal with such a life-destroying menace as malaria. The report referred to above points out that malaria is still the main cause of sickness among the troops in India, and from that point of view alone it would seem desirable to institute a campaign to stamp it out on the lines suggested by Sir Ronald Ross some months ago. It is all a question of money, of course, but the State must soon decide whether it is more economical to treat millions of patients for malaria and provide them with hospital accommodation or to spend lavish sums of money in eradicating the disease. If no definite measures are instituted against the spread of malaria it will continue to take its enormous toll of human life every year until India will become a land of regrets for all those who visit it whether for business or pleasure. We hope that those in charge of public health in Bombay Presidency will see that more is done to combat this scourge in the near future than has been done in the past.

Industrial Research.

In connection with the co-ordination of industrial research the United Provinces Chamber of Commerce addressing the United Provinces Government acknowledges the Indian Government's letter on the subject and writes regarding the general desirability of co-ordinating through a central agency such industrial research work as is being carried on in the various provinces. That there cannot be two opinions that such a central agency or agencies should keep abreast of the times and should be in close touch with similar agencies in other parts of the Empire or the world is another abstract proposition to which no exception can be taken. My committee, however, before committing themselves to any view would like to know the specific steps to be taken to bring about co-ordination within and co-operation outside the country. My committee note that the Government of India has not so far formulated any scheme. Any definite scheme of co-ordination which may be proposed would have to be carefully examined in the light of its practical utility, the expense involved and the possibility of its interfering directly or indirectly with the fullest discretion and initiative of local governments within their own spheres. As regards co-operation a full and free exchange of scientific and technical information bearing on particular practical arts may not operate to the advantage of this country. There would always be a likelihood of the results of industrial research obtained at the expense of the Indian tax-payer being taken advantage of by other countries. It is true the advantage would be reciprocal but India, lacking as it is in enterprise and other essential requisites of industrial development, may not stand to gain equally by such reciprocity. For the above reasons my committee would prefer to wait until a definite scheme is forthcoming and would urge the local Government not to commit themselves in advance to participation in any general scheme of co-ordination before examining the details of such a scheme.

Indian Timber Trade.

Some interesting information regarding the *Indian Timber trade was revealed in an interview* in Bombay by Mr. D. Narasimha Moorthy Rao, of the Mysore Forest Service, who recently returned to India after a tour of the Continent and America, where he particularly studied the Timber Trade. Mr. Rao studied in Washington for fifteen months, and took the degree of Master of Forestry, specializing in Kiln-drying and Creosoting, in which, he says, India is sadly behind. The whole of the Indian Timber Industry is very backward, he says, chiefly through lack of exploitation. India is content to export logs in the rough and prepared timber in the form of window frames, doors and ornamental furniture is entirely neglected, whereas there is a distinct market for this. Veneers of Teak and Blackwood or Rosewood could find a ready market overseas. The remedy, according to Mr. Rao, is the opening of more timber mills of the smaller kind, run by private enterprise with direct representation on the Continent and America. In the latter country, despite its large timber trade, teak and blackwood would find a ready sale. The Indian Forest Department compares favourably with

any other as far as research and experimental work is concerned but in the exploitation of its products it is sadly lacking. Transportation methods too are in a crude stage. There is vast scope in the huge forests of India for the development of a big industry. Mr. Rao is a graduate of the University of Madras and is a product of Central College, Bangalore. He was later sent by the Government of Mysore to Dehra Dun Provincial Forest Service Course which he successfully passed standing first and winning gold and silver medals for the various subjects. After five years' service, he was naturally selected to undergo training in Forest Exploitation in America. He completed his studies there with good record and travelled extensively both in the United States and on the Continent for more than six months. Mr. Rao has, therefore, a good training to his credit and his views on forest exploitation are well considered. His special study of fuel supply to Charcoal Iron Works in the State of Michigan, U. S. A., should be of value to Government in improving the methods of fuel supply to the works at Bhadravati.

India's Reserve Bank.

There was no need of Sir George Schuster to have clothed his ideas in so much verbiage when making his first pronouncement on the Reserve Bank problem in the Assembly. It was right that he should speak with caution in view of the unpleasant controversy which Sir Basil Blackett had to bear the brunt of last year. At the same time it is worth noting that the new Finance Member still adheres to the main principle accepted by Sir Basil Blackett, namely that India's Central Bank should be on a sound foundation, and that it should come into being by common consent. All sensible people agree with the Government that a Central Bank is necessary for India, but how best to achieve it is the main problem facing Sir George Schuster. The proposed banking enquiry, he hopes, will pave the way for India's Central Bank, though he did not say so in just those words. It is a great pity that political passions got the upper hand when the proposal for a Central Bank was on the anvil last year, for as a consequence India must now take a long round-about road to achieve exactly the same object.

Imperial Exhibition.

Intimation has been received from the High Commissioner for India, London, that the third Imperial Exhibition of Contemporary Art will be held at the Imperial Gallery of Art, Imperial Institute, London, during the months of April, May and June 1929. The primary object of the exhibition is to introduce the work of distinguished artists overseas to patrons of art in England. The actual selection of the sixteen exhibits to be sent from India will be made by a committee appointed by the Government of India. The Government of India will meet the expenditure which will be incurred in sending the selected exhibits from Delhi to London and back. Artists will however be required to meet the cost of transport of their works to and from Delhi. Persons who are agreeable to exhibit their works on the prescribed terms and who desire to submit such works for consideration by the selection committee are requested to communicate their wishes to the Secretary to Government, Law Department, Fort St. George, Madras.

A Communique to Bombay University.

A recent communication from the University of Edinburgh to the Secretary, University Information Bureau, Bombay, points out that some students still go to Scotland from India without having the necessary qualification for entrance on a course of study at the University. The evil consequences which have frequently been noted in such cases are much to be deplored, and the Edinburgh University Court recommends strongly that no Indian student should come to Scotland without having passed at the least the Intermediate Examination (First Class) of an Indian University or some other examination which will confer exemption from the Preliminary Examination of the Scottish Universities.

A Press Communique.

The following Press Communique, dated the 29th January 1929, has been issued by the Madras Government :—In continuation of the press communique No. 93, dated 4th February 1928, published in Part I of the *Fort St. George Gazette*, dated 7th February 1928, it is hereby notified for general information that with effect from 1st January 1929 German nationals will be admitted without visas into all British Colonies, Protectorates and Mandated Territories with the following exceptions :—

(*a*) Malta and Gibraltar. (*b*) The Indian Empire and Aden. (*c*) New Guinea and Nauru. (*d*) The Mandated Territories of Palestine, Transjordan and Tanganyika. Though Malta and Gibraltar are excluded, German nationals only require a visa for Malta if proceeding there for residence or to exercise therein a profession, trade or industry. German nationals proceeding to Malta as visitors or tourists will not be

required to obtain a visa. Similarly, in the case of Gibraltar, German nationals do not require a visa for landing at Gibraltar but must obtain a permit from the local authorities which is issued on arrival.

Passports will be required as hitherto and in all cases admission will be subject to compliance with the immigration regulations in force. Similarly, British-protected persons as well as British subjects will be admitted into Germany without visas, provided that they are in possession of regular British passports.

UTILIZATION OF LAC DYE AS FERTILIZER.

A Circular (No. 3) issued by the Director of Industries, Bengal, on the 'Utilization of Lac Dye as a Fertilizer', states :—Lac dye is a bye-product in the washing processes necessary for the refining of seed lac. In the dry state it is available as an amorphous red substance. It was formerly used as a dying material for cotton and silk goods but owing to the advent of more efficient aniline dyes it is no longer used as such. The material is now almost entirely wasted. No other industrial use for it has been found. Large quantities of this material are available in the lac refining centres. It is known that this material has the properties of a fertilizer. It has been found to contain the following amounts of manurial constituents :—Nitrogen 2.68% ; Phosphoric anhydride (P_2O_5) .33% ; Potash (K_2O) .74%. The material has, therefore, the same manurial value as mowha cake which contains about 2.75 per cent nitrogen and can easily command a value of Rs. 1-8 per maund. This information is published with a view to giving publicity to the possible value and use of this material for fertilizing purposes.

TRANSFER OF BOMBAY MINT.

The Mint Master, Bombay, states that no further passes will be issued to the Public to visit the Bombay Mint as the manufacture of coinage is being transferred to Calcutta till further orders of the Government of India.

Topics in the Journals.

Bureaucracy.

Sir John Anderson, Permanent Under-Secretary to the Home Office, delivered the inaugural address for the year at the session of the Institute of Public Administration, of which he is Vice-President, held at Burlington Gardens on the 22nd of October, 1928. Lord Eustace Percy presided :—

Taking as his subject "Bureaucracy" Sir J. Anderson said that it seemed to him that it might be useful to consider the quality of our public administration in the light of recent unflattering comments and criticisms. There were critics whose strictures were deserving of serious consideration. He asked his audience to see whether there was really something amiss in the present methods of conducting public business which would justify misgiving.

The speaker traced in brief outline the development of our public service from Saxon times, when the conception of citizenship was that any freeman could be called upon to discharge any public duty on behalf of the community, down to the present day. The old theories of public service, he said, had profoundly influenced not only the development of our local government and of our magistracy—two typically English institutions—but also our central administration, and the attitude of the ordinary citizen towards the law and towards constituted authority under the law. They involved a conception of public service as a personal thing, and not as the product of a mechanized system ; in other words, they were essentially anti-bureaucratic.

Since the middle of last century there had grown up a great body of public servants composing the Civil Service as we know it to-day, of which the public were bidden to beware. "There shall be paid to the secretaries, officers and servants of the Ministry such salaries or remuneration as the Treasury may from time to time determine." That was the charter of the modern Civil Service - not a word said as to powers, duties, or responsibilities. How far were the strictures passed upon what is loosely termed bureaucracy, but what the speaker was inclined to think would be more properly described as 'departmentalism', a natural consequence of this recent development ?

It was first objected that the Civil Service was anonymous. They were told to beware of the pretentions of a "vast army of anonymous officials hidden from view" - surely a necessary consequence of the full development of the doctrine of ministerial responsibility. It was not always so ; and so long as the great central Departments of State conducted their business as did the Colonial Office, the Foreign Office, the Treasury, and so on in the main with other public authorities, and with their own sub-departments and representatives, no question was likely to be raised ; but, with the extension of the activities of Government into the sphere of personal relationships and private interests, which began with the passing of the National Insurance Act in 1911, other considerations began to arise.

ADMINISTRATIVE TRIBUNALS.

With regard to the growing tendency to have recourse to what might be called administrative tribunals—the reasons for which were to be found in the character of the social legislation passed during the last 30 years—he thought that it might be conceded that there were certain advantages on the score of expedition, saving of expense, and uniformity of decision to be gained by this method. If, on the other hand, it could be shown upon sufficient evidence—for

it was not a thing to be taken for granted—that the result had been to place the Departments of State in any true sense above the law or effectively to oust the jurisdiction of the higher tribunals, the time had come to take stock, with a view to devising such safeguards as might ensure the preservation of those constitutional principles which were really vital—namely, the sovereignty of Parliament and supremacy of the law as interpreted and administered by an independent judiciary.

As regards the exercise by public departments of legislative functions, there was this to be said. In any statute which gave to any administrative authority the power to regulate the ordinary relationships of human life, a certain degree of elasticity was desirable if just and efficient administration was to be secured. The demands upon Parliamentary time made it almost inevitable in present circumstances that the State itself should be limited to the formulation of principles and the creation of the necessary administrative machinery, leaving matters of details to regulation.

One charge levelled against bureaucracy was that it was deliberately obscurantist. They were told that in their letters, in the forms that were inflicted upon the long-suffering public in the regulations and in the Bills that were presented to Parliament, they employed "long, complicated, tortuous, verbose, and apparently meaningless phraseology" with the deliberate purpose of involving the lieges in a maze of technicalities to which they alone possessed the key. How far was this accusation really justified?

"I have been privileged," said the speaker, "to serve during the War in close association with many great business-men in a Department transacting business which is normally conducted upon the footing of private enterprise, and I could not fail to be impressed by the contrast between the methods of the business-men when they were dealing with one another and the methods to which a public Department in similar circumstances had to resort. In private life the people who have dealings with one another proceed normally upon a common basis of experience. A great deal can be taken for granted. Appeal can be made in case of doubt or dispute to the custom of the trade, and there are reputations at stake all the time. In public administration all the t's must be crossed and all the i's dotted, or before very long someone with a commendably anti-bureaucratic instinct will join issue with the Department and score a victory which will be greeted with public acclamation."

"Has not, we are bound to ask ourselves, the doctrine of Ministerial responsibility worn rather threadbare now that the functions of Government are so varied and so comprehensive: is not the theory that everything that is done by an official is done by the Minister, who is constitutionally bound to hold himself answerable in Parliament, coming to be regarded more and more as a mere fiction? Is the time approaching when there will have to be a reversion to the older system of quasi-independent public officers or has that system become out of date with the disappearance of a recognized governing class? Can any lessons be learnt from the experience of local government officials who are in the habit of working in close association with committees composed entirely of the elected representatives of the people? I suggest to the members of this Institute that we have here a subject which the Institute might well make it its business to follow up, not in any combative spirit, but in a spirit of earnest inquiry and research."

American Industrialism.

Speaking on American Industrialism at Chicago, Mr. Upton Sinclair, a Socialist, had some damaging things to say:—

Here, in this city to-night, said Mr. Sinclair, ten thousand women are shut up in foul dens, and driven by hunger to sell their bodies to live. And we know it, we make it a jest! And these women are made in the image of your mothers, they may be your sisters, your daughters; the child whom you left at home to-night, whose laughing eyes will greet you in the morning, that fate may be waiting for her. To-night in Chicago there are ten thousand men, homeless and wretched, willing to work and begging for a chance, yet starving, and fronting in terror the awful winter cold. To-night in Chicago, there are a hundred thousand children wearing out their strength and blasting their lives in the effort to earn their bread! There are a hundred thousand mothers who are living in misery and squalor, struggling to earn enough to feed their little ones! There are hundred thousand old people, cast off and helpless, waiting for death to take them from their torments.

Wage Slaves.

There are a million people, men and women and children, who share the curse of the wage-slave; who toil every hour they can stand and see, for just enough to keep them alive; who are condemned till the end of their days to monotony and weariness, to hunger and misery, to heat and cold, to dirt and disease, to ignorance and drunkenness and vice! And then turn over the page with me, and gaze upon the other side of the picture. There are a thousand, ten thousand may be, who are the masters of these slaves, who own their toil. They do nothing to earn what they receive, they do not even have to ask for it—it comes to them of itself, their only share is to dispose of it. They live in palaces, they riot in luxury and extravagance such as no words can describe, as makes the imagination reel and stagger, makes the soul grow sick and faint. They spend hundreds of dollars for a pair of shoes, a handkerchief, a garter; they spend millions for horses, automobiles and yachts, for palaces and banquets, for little shiny stones with which to deck their bodies. Their life is a contest among themselves for supremacy in ostentation and recklessness, in the destroying of useful and necessary things, in the wasting of the labour and the lives of their fellow-creatures, the toil and anguish of the nations, the sweat and tears and blood of the human race!

In the Grip of Capitalists.

It is all theirs—it comes to them; just as all the springs pour into streamlets and the streamlets into rivers, and the rivers into the ocean—so automatically and inevitably all the wealth of society comes to them. The farmer tills the soil, the miner digs in the earth, the weaver tends the loom, the mason carves the stone, the clever man invents, the shrewd man directs, the wise man studies, the inspired man sings and all the result, the product of the labour of brain and muscle are gathered into one stupendous stream and poured into their laps! The whole of society is in their grip, the whole labour of the world lies at their mercy and like fierce wolves, they rend and destroy, like ravening vultures they devour and tear. The whole power of mankind belongs to them for ever and beyond recall—do what it can, strive as it will, humanity lives for them and dies for them. They own not merely the labour of society, they have bought the government, and everywhere they use their stolen power to entrench

themselves in their privileges, to dig wider and deeper the channels through which the river of profits flows to them.

BEAST OF BURDEN.

And you, working-men, you have been brought unto it, you plod on like beasts of burden, thinking only of the day and its pain—yet, is there a man among you who can believe that such a system will continue for ever—is there a man here in this audience to-night so hardened and debased that he dare rise up before me and say that he believes it can continue for ever, that the product of the labour of society, the means of existence of the human race, will always belong to idlers and parasites to be spent for the gratification of vanity and lust—to be spent for any purpose whatever, to be at the disposal of any individual will whatever—that somehow, the labour of humanity will not belong to humanity, to be used for the purposes of humanity, to be controlled by the will of humanity? And if this is ever to be, how is it to be what power is there that will bring it about?

SELF-RELIANCE.

Will it be the task of your masters, do you think they will write the charter of your liberties? Will they forge you the sword of your deliverance, will they marshal you the army and lead it to the fray? Will their wealth be spent for the purpose—they build colleges and churches to teach you, will they print papers to hear your progress, and organize political parties to guide and carry on the struggle? Can you not see that the task is yours,—yours to dream, yours to resolve, to execute, that if ever it is carried out, it will be in the face of every obstacle that wealth and mastership can oppose—in the face of ridicule and slander, of hatred and persecution, of the bludgeon and the jail? That it will be by the power of your naked bosoms, opposed to the rage of oppression, by the grim and bitter teaching of blind and merciless affliction, by the paintul groping of the untutored mind, by the feeble stammerings of the uncultured voice, by the lonely hungers of the spirit, by seeking and striving and yearning, by heartache and despairing, by agony and sweat of blood? It will be by money paid for with hunger by knowledge stolen from sleep by thoughts communicated under the shadow of the gallows.

VOICE OF OPPRESSED.

It will be a movement beginning in the far-off past, a thing obscure and unhonoured, a thing easy to ridicule, easy to despise;—a thing unlovely, wearing the aspect of vengeance and hate, but to you, the working man, the wage-slaves calling with a voice insistent, imperious, with a voice that you cannot escape; wherever upon the earth you may be, with the voice of all your wrongs, with the voice of all your desires, with the voice of your duty and your hope of everything in the world that is worth while to you, the voice of the poor demanding that poverty shall cease, the voice of the oppressed pronouncing the doom of oppression! The voice of power, wrought out of suffering of resolution, crushed out of weakness of joy, born in the bottomless pits of anguish and despair. The voice of labour, despised and outraged a might, a giant, lying prostrate mountainous, colossal, but blinded, bound and ignorant of his strength. And now a dream of resistance haunts him, hope battling with fear; until suddenly he stirs, and a fetter snaps and a thrill shoots through him, the farthest ends of his huge body, and in a flash, the dream becomes an act. He starts, he comes to himself, and the bands are shattered, his burdens roll off him; he rises—towering, gigantic he springs his feet, he shouts in his new born exaltation.

Industrial Methods in the United States.

A correspondent of the *M. G. Commerci[al]* gives the following account of what he saw i[n] America and how he felt:—

We had just left the centre of Manchester and ha[d] passed over a shallow, swift stream. Along the ban[k] were the cotton mills, long brick building fronted b[y] trees. Then came the houses of the workpeopl[e], houses painted white with green shutters and lawn[s] stretching down to the pavements. On the gras[s] played girls dressed in gay ginghams or boys in cotto[n] shirts and Boy Scout pants. Occasionally a child wit[h] the optimism of its years attempted to race our si[x] cylinder car with a fairy cycle and after a spurt of [a] dozen yards or so gave up the effort with a smile an[d] a wave of the hand.

As far as we who rode could read, there was littl[e] sign here of economic depression and yet our host ha[d] told us that the cotton trade was bad—in fact, the tw[o] main trades of the town were badly hit by the com[-]petition of other places, and the cotton business wa[s] moving south, while the other chief industry, sho[e] making, was moving west. This was Mancheste[r] New Hampshire, not the Manchester which think[s] to-day what England will think to-morrow. On[e] could not help contrasting the two towns, similar i[n] name, similar in their state of trade, and wonderin[g] why this New England town could manage to look s[o] well kept in comparison with the sour grimness o[f] South Lancashire.

Of course, Manchester, N. H., had started later an[d] though there had been little of any conscious town planning, it had escaped the horrible herding of huma[n] beings which is our own inheritance from the industria[l] revolution. But there were other differences our hos[t] told us about, and it was in these that the explanatio[n] probably lay. In New Hampshire there was a grea[t] number of French Canadians, who, like their French peasant ancestors, had a basic sense of thrift, which enabled them to live within their incomes no matter how poor their wages were.

When the strike in the cotton mills broke out these operatives spent most of their time working on their little plots of land and renovating their house and even in building their town. The spirit of this sublimation of energy must have been infectious, for all over the district houses were built during a period of considerable hardship for the builders. Naturally this required some capital, and no doubt the difficulty of spending one's reserves in purchasing an anodyne for one's troubles had helped to increase the weight of the family stocking or its equivalent, for in spite of speakeasies and bootleggers alcoholic stimulant is more difficult to obtain than it was. Land was purchased, and, often for the sake of cheapness, at considerable distance from the town. The problem of transportation was solved, as it generally is in America, by the ubiquitous Ford. An old Ford with a working quorum of parts can be purchased for as low as fifteen dollars, and a man with a mechanical facility—and New Englanders possess that to the point of genius—can make it function and keep it functioning.

When the strike was over many operatives owned their own homes and ran their own kitchen gardens. Now, when the great Amoskeag mills, which once employed over 15,000 hands, are working at only half capacity, the town is bright and prosperous in appearance. It is not really prosperous, but at least there are none of those depressing symptoms of poverty seen in English industrial areas where there is [illegible]

..gh work for the many who are willing and anxious ..rk. In Manchester, New Hampshire, the factory ..l is no longer solely dependent on the mill for his ..ihood; he can add to his larder by produce from ..wn land, his rent is no great burden, and, best of ..he and his family can live in sunshine, fresh air ..spaciousness.

..e day after our ride through Manchester we were ..g on a wide, sheltered porch during a tempestuous ..ummer storm talking about this dual function of factory operative. Our American friend, himself ..manager of a large shoemaking plant, expressed a ..f that the future development, in America at any ..would be towards the semi-ruralization of indus-

Apart from acting as a workman's insurance, a ..ter factory efficiency would result, he believed. ..is own experience he had found that a man who worked on a farm during the spring, summer, and *suffered no handicap in adapting himself to fac*-conditions during the winter; in fact, observation ..ne to consider that such a man brought more than ..verage amount of intelligence to his work.

..e discussed this semi-ruralization later and at ..ener length, and that evening, after our nightcaps ..cold water, for the household had taken the Eigh-..nth Amendment in a matter-of-fact way, we went .. bed to dream of a mild Utopia towards which ..merica was steering. Later, in talking to the presi-..nt of a large paper mills company not far from ..oston, this vision persisted.

Here were a people, we thought, who by luck, ..sign, or the grace of Providence had found how to ..duce commodities cheaply and at the same time to ..se the standard of living without crushing out ..dividuality.

Even in bad times there was enough reserve of ..amina and actual wealth to enable the workers to ..e in a degree of comfort which would seem luxurious ..their European brethren.

The paper manufacturer was one of America's ..dustrial intellectuals, convinced that scientific ..anagement coupled with "enlightened self-interest" .. the part of employers of labour would bring about a ..te of affairs where the workers would steadily ..vance in wealth and dignity. He disparaged the ..ea of assuming that mass-production work was a ..essary boredom only to be endured for the sake of .. financial reward, and stated that by careful planning ..ough variety could be introduced into work-a-day .. *to deep operatives interested in the job for its own* ..ke.

The doctrine of high wages was of necessity a part .. his creed, for high wages meant high purchasing ..wer, and unless commodities were brought in in-..asing quantities factories must limit output. The ..iter suggested that manufacturers for the most part ..ncentrated on increase of output to the exclusion of ..study of the demand, and that the result of such a ..licy might very easily be a sudden and disastrous ..mp. That was admitted. "But," he asked, ..who can define the saturation-point?"

It was once thought that automobiles had approach-.. saturation-point, but the high-power salesmanship ..at had been used to induce the public to buy more ..rs had resulted in owners disposing of them after ..comparatively short time. Such cars were passed on .. people who could not afford new models, and so a ..eat second-hand, third-hand, and even fourth-hand ..arket had been created. It was admitted, however, ..at in certain industries even the highest powered ..lesmanship had not been able to keep up with rate of production, and the lack of balance was causing a great deal of concern. One solution that had been proposed was that workers should have their working hours cut down—without, of course, any cut in wages—in order that with an increased amount of leisure there would be more time to buy.

India's Sugar Industry.

Some valuable advice on the future of sugar growing in India was given by Sir James McKenna, a member of the Royal Commission on Agriculture, in a paper read before the Indian Section of the Royal Society of Arts in London recently. Sir Reginald Mant was in the chair. After reviewing the history of sugar cultivation in India, Sir James McKenna said:—

The decline of the Indian sugar industry, or rather its inability to keep pace with the increased internal demand is due largely to conservatism and lack of progress. Processes which the people evolved for themselves at a time when facilities for transport were limited, and when competition was unknown, continue to be followed, while in other countries the latest improvements which engineering and science have evolved have been brought into requisition. It is unfair to be unduly hard on this conservatism. The cultivators appreciate efficient crushing mills as is shown by the general adoption of iron mills in place of stone or wooden ones where the cultivator can afford to buy them, but it has to be remembered that many of these sugarcane growers are very small men and have not the means to buy improved mills. Co-operation would probably help to solve these difficulties or a system of hiring out the improved mills might be devised; extension of their use will confer very real benefit on the cultivators. The effective yield of juice per acre could be increased 10-15 per cent if efficient mills were procurable.

MANUFACTURE OF "GUR".

It is an important point to realize that even with reference to the *gur* industry, the value of the improved canes which are being introduced, will be very largely diminished if improved methods of crushing and boiling do not go hand in hand with the increased yield. At present Coimbatore canes are being distributed fairly rapidly and widely, but a really efficient mill to *deal with them has not yet been discovered. Until* the manufacturing side of the country sugar industry is made efficient the increased cane yields will merely increase the waste and the benefit to the cane grower will be largely lost.

The improvement of the faulty methods of dealing with the cane will have their first effect in the improvement of the *gur* and *rab* industry. But to check import of foreign sugar, the establishment of modern efficient factories is the only way to solve the problem. India at present is not making the fullest use of her raw material; the waste that is going on is simply colossal. The acreage under cane last year was 3,071,000 acres and if we deduct 16 per cent as providing cane for chewing, sets for planting, and for cattle fodder, we are left with 2,580,000 acres. Out of this, roughly, only 80,000 acres provide cane for the manufacture of sugar in modern factories. The produce of the remaining area is converted into *gur* or raw sugar.

MAIN DISABILITIES.

At present, the Indian sugar industry suffers from two main disabilities, the first agricultural and the

second concerned with the manufacture of cane into raw sugar. The first is the extremely low yield of sugarcane per acre over large tracts of India. Improvements in yield can be brought by wider extension of Coimbatore cane; this has been abundantly proved by the success achieved in Northern Bihar and part of the United Provinces. There is also great room for improvement in the standard of cultivation, manuring, etc.

It was the idea of the India Sugar Committee that research and propaganda in connection with sugarcane should be largely centralised under the Sugar Bureau or Indian Sugar Board which it was proposed to establish. The position has been considerably affected by the Reforms and the transfer of agriculture to ministerial control but it seems to me that even with this administrative change there is considerable work to be done by the Central Government in the matter of the development of the sugar industry. The question is an all-Indian one, and it does not appear to me to be altogether impossible to develop a system in which the majority of the recommendations of the Indian Sugar Committee could be carried out by the Central Government, while local governments would assist in giving effect to the recommendations of this central research body. In most Provinces financial considerations and proper balance between the claims of sugar and other agricultural crops might make it impossible for particular Provinces to devote the time or money necessary for research into problems connected with sugar, although they might have stuff and finance adequate to give effect to the recommendations emanating from the Government of India Central Sugar Research Bureau.

I venture to think that sugar is one of the matters for research which should receive attention from the Central Government, and that the general policy, both of research by the Government of India and of local research and propaganda in the Provinces, is one to be taken up by the Council of Agricultural Research which has been recommended by the Royal Commission on Indian Agriculture. No doubt this Council in framing its policy will take into consideration the various recommendations of the Indian Sugar Committee and consider how far these proposals fit in with existing conditions.

No Need of Increased Area.

If the Indian sugar industry is to be saved the problems must be tackled at once and assistance must be given to Provinces where the crop is of importance, so that they can delegate officers to devote their whole time to work on sugar. There is no need to increase the present area under cane, or to infringe on areas at present utilized for other food crops. Already the area is nearly double what it need be if the sugarcane industry were efficient. If Java, with 150,000 acres, can turn out 2,300,000 tons of sugar per year it is surely not too much to hope that India, with its three million acres, will be able to produce at least enough to meet her internal needs. I do not minimise the advantages which Java possesses as compared with India. The Java system permits of factory control of concentrated areas, and this undoubtedly makes her problem easier, but, apart from this the outstanding position of Java in the sugar world has been built up almost entirely on the application of extensive scientific research to the problems of the industry.

In India it is not in most cases possible to obtain factory control of land and cane will frequently have to be collected from small and scattered holdings. At present most of that sugarcane is inferior, but if, as a result of research, better cane is available we need have no fear of unwillingness on the part of the cultivator to take it up. Nor is it a matter of any great difficulty for a factory to work up a connection with local cultivators to ensure regular supplies. Scientific research and factory organization are the key-notes to the solution of the problem.

Some Suggestions.

In conclusion, I may perhaps be permitted to indicate very generally the lines upon which I consider the problem should be tackled. I repeat that in my opinion the limit of tariff protection has been reached. We must attack the problem from the agricultural and manufacturing side. My suggestions are :—That the work of the cane-breeding station at Coimbatore should be continued and extended and that arrangements should be made to ensure continuity. Dr. Barber has gone and Rao Bahadur Venkataraman cannot go on for ever. A thoroughly competent botanist should be in training to carry on the work when a vacancy occurs. I say thoroughly competent. The only consideration that should influence an appointment to the staff of this station is that the very best man should be secured. In Provinces in which sugarcane is of importance one deputy director of agriculture should be recognized as the provincial sugarcane expert and so far as possible his labours should be limited to the one crop. It will be his duty (*a*) to study the local canes and select the best of them; (*b*) to make such arrangements as may be necessary for the careful testing of his own selected canes and of the Coimbatore canes and for the multiplication and distribution of such improved canes as may be recommended.

While work in the Provinces must naturally be entirely under Provincial control, arrangements should be made for the closest collaboration between the Imperial sugar expert and Provincial officers working on sugarcane. The Central Board of Agricultural Research should be in a position to arrange the necessary links between Imperial and Provincial officers. It is of vital importance that there should be the closest relations between Coimbatore and Provincial officers and exchange of visits between them should be encouraged. No obstacles should be placed in the way of the Imperial sugarcane expert and he should be encouraged to travel freely over India in order to keep in touch with the developments in the Provinces and to observe the behaviour of his selected seedlings under the varying conditions which will be found up and down India. I emphasize that to endure success of the Coimbatore work and to guarantee its spreading all over tracts of India where Coimbatore canes are found to succeed, there must be the closest collaboration between the sugarcane expert and Provincial workers. All petty jealousies must be sunk and all must work with common aim.

Cultivation of Waste Land.

Where composite blocks of suitable land are available and where there are no local difficulties, large grants of waste land suitable for the cultivation of sugarcane should be given to groups or individuals who are prepared to erect a modern sugar factory. We cannot get away from the fact that the great factor in Java's success is that factories have control of the land and are both growers of the cane and manufacturers of sugar. Where, therefore, a similar position could be developed in India without interfering with the general interest of the community, the Government should have no hesitation in granting land on favourable terms to manufacturers who are prepared both to grow and manufacture sugar.

It will be for the Council of Agricultural Research to decide whether a Central Sugar Research Institute is required and whether the Government should set up an experimental sugar factory. Personally, I do not think that the latter is necessary, but the former might be the best and cheapest way of working out problems of general application connected with crushing, small power installations, fuel consumption, and the like, and also the innumerable problems connected with *gur* manufacture. It will also be for the Council of Agricultural Research to decide whether the Sugar Bureau should be made permanent, and, if so, on what lines it should continue to work.

STUDY OF DISEASES.

Agricultural problems connected with sugarcane must be worked out locally in the Provinces, but a mycologist might be attached to the Coimbatore station, whose personal concern would be investigation of the disease of sugarcane and whose services would be at the disposal of all Provinces. The Java industry was saved from complete ruin in 1884 by concerted scientific attack on the *Serch* disease, which threatened to exterminate it. A similar calamity may attack India at any moment and we must be prepared to meet such a possibility.

All over the world areas under sugarcane are increasing. Agricultural and factory efficiency are advancing in practically every country, and each year sees conditions for an inefficient industry made more and more impossible. It is no exaggeration to say that no duty of any reasonable size could have kept the Indian sugar industry as it existed before the War alive at the present day. Its own inefficiency must have strangled it. In recent years there has been a stimulation of interest and efficient factories are springing up. Efforts should not be relaxed, and if there is a fixed determination to tackle the problem seriously there is no reason to despair of the future of the industry.

Urban Water Supply in India.

From an experience gained mostly in the design, construction and maintenance of the Madras waterworks, Mr. J. W. Madeley gave the Royal Society of Arts in mail week an informative survey of the problems of urban water supply in India. The large towns are all situated in the plains. Owing to the heat there is for most of the year a demand for water far in excess of Western requirements. The people being poor, the cost of supply cannot be met wholly from the rates. Provincial Governments usually pay half the cost of the works, and lend the remainder on generous terms. Even so the funds are often inadequate for the supply required.

Most large Indian towns are originally, and many still are to a great extent, supplied with water from shallow wells and tanks. These were contaminated, especially the tanks where ablution was, and still is, performed in water used for drinking. The very high death rate which ensued from cholera, dysentery and other water-borne diseases was accepted as the will of Providence. The early efforts of English administrators to provide waterworks on Western lines were strongly opposed on the ground that water that came through a closed channel such as a pipe would be unwholesome. Even to-day this prejudice exists in towns which rely on the old insanitary supplies.

PREVENTION OF WASTE.

While the working class and middle-class Indian is frugal in his direct expenditure upon necessaries he is apt to be very wasteful when he does not pay for any municipal service according to the amount of use in his household. The tropical climate, the absence of rain save during the monsoons, and the religious significance attaching to ablutions make large quantities of water desirable, but there can be no question that there is a vast amount of avoidable waste. Mr. Madeley stated that no town on the plains of India has yet been able to supply as much water as the inhabitants desire. Bombay consumes about 60 gallons per head per day and Calcutta about 90, yet both these towns are short of water and are spending large sums to increase their supplies.

Mr. Madeley holds that the right solution is to supply water by meter, like gas and electricity: that the monthly bill would act as an automatic check on waste, and that if waste were eliminated there should be enough water for all legitimate purposes. He described the methods adopted in Madras to prevent waste. In very poor districts where the habitations are mostly mud huts, water is supplied through fountains provided with self-closing taps. The fountains are about 200 yards apart and from them water can be obtained and carried in vessels to huts. Experience shows that the limited number of taps and the effort of carrying the water severely restrict the quantity used. For brick houses two classes of services are provided. There is a first-class service, for which the consumer is required to hire water meters from the Corporation, to use only specified fittings, and to secure approval of the position and number of pipes, taps, and other fittings. There is a second-class service, in which the consumer is allowed to fix one ½-in. tap of approved pattern, provided that it is placed in a position, visible from the road, where it can be readily inspected.

There is a water tax on property, and no additional charge is made for the second-class service. In first-class services the tax is taken to cover 100 gallons per rupee (1*s.* 6*d.*) of rent. A charge of one rupee is made for every additional 1,000 gallons of water used. These regulations, Mr. Madeley said, prove effective so long as they are carried out but unfortunately exceptions have been granted by the Corporation in such numbers that control of the supply has been rendered very difficult. One reason for this difficulty is that caste men will not allow any one of lower caste to enter their houses for inspection except at certain approved hours.

PURIFICATION

The water supplies to Indian towns are subject to pollution which may be dangerous. The most usual method of purification is slow sand filtration. It has been found that storage up to about 30 days in England and about seven days in India will remove about half the organisms, so that storage followed by slow sand filtration produces a very good water.

Some form of pre-filtration treatment is frequently necessary. Most large rivers in India contain a large quantity of silt, which has to be removed in order to render the water suitable for slow sand filtration, the usual process being by sedimentation in large tanks, either with or without the use of chemicals. A notable instance of this preliminary sedimentation is afforded by Calcutta where four tanks are provided, each 2,036 ft. long with an average width of 277 ft. and a total capacity of 84,000,000 gallons.

In the water supply of some towns the cost of pre-treatment would be too great to be economical. Moreover, slow sand filtration does not always prove satisfactory in India. In Madras it has been found that for

the first two or three months after starting, slow sand filters will work satisfactorily, but thereafter analysis shows loss of efficiency. At the same time there is a smell of sulphuretted hydrogen near the filter outlet, and on emptying the filters crater-like holes are frequently discovered in the surface. Mr. Madeley has recommended that the present slow sand filters should be converted into rapid filters working at the rate of 100 in. vertical per hour, with a chlorinating plant to be used as bacteriological analysis shows desirable. The change from slow sand filters to rapid filters has been made by Poona and by a number of towns in the north of India.

Punjab Agriculture.

Some interesting facts and figures are contained in the review of the annual report on land revenue administration of the Punjab for the year ending 30th September 1927. The review states :—

" The abundant monsoon, abundant to excess, towards the end of the season in September 1926, was followed by a compensatingly dry autumn and winter. The Kharif sown area (12.29 million acres) was 5 per cent above normal, and the percentage of failure 15 per cent as against a normal of 22 ; the Rabi sown area (18.11 million acres) was 2 per cent above normal, with failures normal at 13 per cent. The actual area cropped was 26.17 million acres, as against 24.6 in the previous year, and a normal of 24.77."

The acreage under wheat keeps steady at just under one-third of the total annual area of crop sown. The high level of prices in 1921–22 added a million acres to the sown area under wheat in 1923 with the total sown area under all crops remaining constant. The price, however, fell from Rs. 5-12-0 to Rs. 3-11-0. In 1924 the increased area under wheat (9.7 million acres) was maintained, though prices still ruled at the same low level. In 1925, prices rose to Rs. 5-3-0 with the same acreage under wheat, and since then prices have shown a tendency to fall, and the area has shrunk slightly to 9.4 million acres. These figures would show that wheat now-a-days has an expanding home market to supply.

Cotton Prices Lively.

There is far greater liveliness in cotton prices, which are perhaps worth noting in detail as illustrating generally the notoriously slow turnover in farming and particularly the pronounced " lag " in the responsiveness of cultivation to prices current. Cotton in 1922 covered an acreage of 1.27 million acres when the price was Rs. 10-14 desi, and Rs. 14-9-0 American.

For subsequent years the figures are worth tabulating :—

Prices.

1923.		1924.		1925.		1926.		1927.		
Rs	A.	Rs.	A.	Rs.	A.	Rs.	A.	Rs.	A.	
16	3	13	5	10	2	7	14	10	13	Desi.
21	3	16	3	12	15	9	6	13	12	American.
1.75		2.33		2.70		2.52		1.84		Million acres.

In 1922 the extent of American cotton was equal to just half the desi cotton sown on the canals ; the two types now balance each other each covering 1.14 million acres. The above figures testify to the predominance of cotton, as a commercial crop, and they also demonstrate that a year of high and rising prices reflects itself in the expansion of cropping in the two succeeding years and *vice versa*. The same phenomenon is observed in sugar prices and cultivation.

Water-Logging.

"The Water-Logging Committee which originally consisted of an Engineering Member (Secretary) and a Scientific Member was strengthened as a result of a conference held in June 1927 by the addition of a Civil Member to collect and co-ordinate information about the past and present economic condition of villages affected by water-logging. Arrangements were made for special *girdawaris* in the six districts worst affected, *i.e.*, Gruanwala, Sheikhpura, Sialkot, Gujrat, Shahpur and Jhang, to ascertain the extent of damage in each village and to classify the damage as due to " sam " (water-logging) or " thur " (salinity). As a result of this enquiry it has been found that the area affected by sam is less than was feared, and does not amount to more than 40,000 acres, but the thur stricken area is large and formidable."

The Scientific Member continued reclamation experiments on an area of 3,000 acres of water-logged land at Chakanwali in the Gujranwala district. Good crops of wheat and sugarcane have been grown and the experiment promises to pay its way. The discovery of a rocky range beneath the soil across the centre of the Chaj and Rechna Doabs is an important consideration in the general drainage problem. Statistical study of the accumulated data bearing on the fluctuations of the water table with reference to (*a*) supplies from canals, (*b*) rainfall, is likely to curtail some seasonal modification of canal supplies in water-logged tracts. The Engineering Member has been occupied with gauging the threat of the future expansion of water-logging, and practical schemes for relieving its intensity in areas badly water-logged at present.

Irrigation Statistics.

On the Chakanwali farm the total expenditure incurred in growing crops of wheat and sugarcane has been from Rs. 60 to Rs. 70 per acre, and the Scientific Member anticipates that the income derived from the farm will more than pay the cost of maintenance and the cost of the whole experiment, including the steam tackle. The Irrigation Department irrigated during the year under report over 11 million acres out of which over 10 millions matured. The income from fixed and fluctuating canal advantage rates amounted to 21¾ million rupees, *i.e.*, giving a revenue of Rs. 2-3-0 per acre matured. It is perhaps worth mentioning that the Indus Canals in Muzaffargarh and Dera Ghazi Khan which are comparatively costly to maintain and are often sharply criticised, worked well on both sides of the river during the year.

In addition to the great canals there are miscellaneous canals under district management in Hissar, Karnal, Hoshiarpur, Ferozepur, Montgomery, not to mention the Gurgaon *bands* and the Kangra *Kuhls*. These minor canals on the whole did badly, with the exception of the Sarusti Inundation Canal in the Karnal District which like the Gurgaon bands has been handed over to the Rural Sanitary Board. The Nammal Dam in Mianwali had a good year. The hill torrents in Dera Ghazi Khan gave on the whole satisfactory supplies. The cost of the establishment (Rs. 1,252) is very little, but labour for the maintenance and repairs of embankments is supplied by the irrigators themselves.

Land Improvement Loans.

During the year Rs. 5½ lakhs were advanced under the Land Improvement Loans Act. This is a very small sum considering the magnitude of the operations in which facilities for easy money might be sought. The question of making loans more attractive is under consideration of Government.

Under the Agriculturists' Loans Act the amount ...vanced was Rs. 6⅗ lakhs—again a very small sum, ... recoveries always present a problem under this ... 1-3/10 lakhs were suspended during the year, and ...akh was remitted."

Co-operation in C. P.

H. E. Sir Montagu Butler opened the C. P. and Berar Co-operative Federation Congress recently at Jubbulpore. His Excellency, in opening the Congress, said :—

I am grateful to the Central Provinces and Berar Co-operative Federation for its kind invitation to inaugurate the proceedings of its Annual Session. During the fifteen years of its existence, it has passed through many vicissitudes, but, on the whole, it has been of great service to the co-operative movement in the province. Its past records show that it has done much to secure unity of aim and effort. It has also helped in broadening the outlook of Central Banks, and in reaching many of them to think provincially. With the formation of divisional Institutes for all divisions of the Province except the Nagpur Division, much of the detailed work of education and propaganda, which used to be done by the Federation itself, has now passed into divisional hands, but provincial gatherings of co-operators under the auspices of the Federation still have a real value. The discussions which go on in these annual meetings enable those engaged in the movement to take stock of the progress made, and to determine the lines of future development. They bring the movement to the notice of the public and help in the diffusion of popular interest in a branch of activity vital to the moral and economic uplift of agriculturists.

CONSOLIDATION AND REORGANIZATION.

Gentlemen, you are aware that the co-operative movement in the province is passing through difficulties which are mainly the outcome of hurried expansion, and of insufficient attention to the supervision of societies and to the instruction of members in the true principles and practice of co-operation. Fortunately the leaders of the movement, both official and non-official, are alive to what is needed and are concentrating their energies on consolidation and reorganization. Primary societies which afford no hope are being weeded out, and promising societies are being improved. Also a new type of primary society is being evolved in which the spirit of self-help will be developed and the members will be encouraged to take a real interest in the management of their own affairs. Rallies and magic lantern lectures are being organized ; classes for training literate members of societies in the writing of accounts are being held, and similar classes for training the paid staff of the movement in the business of banks and societies are being conducted. A beginning has also been made in the publication in the vernaculars of the province of co-operative literature, and the question of overhauling the arrangements for the supervision of societies is receiving attention. Already as a result of these efforts the condition of the co-operative movement in many districts has taken a marked turn for the better, and I congratulate you upon the success so far achieved. But there is still much to be done, and hard and consistent work over a period of years is necessary if complete success is to be secured ; the more so as the members of primary societies are generally illiterate ; mutual trust is often wanting, and the habit of looking ahead is not developed amongst them. The vagaries of the weather also upset the best financial arrangements. But the greater the difficulties, the greater is the necessity for clear thinking and steady and continuous action.

RURAL PROSPERITY.

Gentlemen, I have been looking with interest at your agenda and am glad to find that in your present session you propose to discuss the recommendations of the Royal Commission on Agriculture in India in so far as they affect the co-operative movement. As was to be expected the Royal Commission has emphasized in unequivocal language the importance of the co-operative movement as one of the main factors in the promotion of rural prosperity. "We have great hopes," they say "that many millions of peasant proprietors may be led to a better life through a sound co-operative movement ; if this is secured, much else is brought within the bounds of attainment. If co-operation fails, there will fail the best hope of rural India." I do not wish to anticipate your verdict on the several proposals made by the Commission, and will only say that I trust that the welfare of the primary society will be the governing consideration in any decisions at which you may arrive. The primary society is the foundation of the movement, and is the organization for the benefit of which the Central Banks, the Provincial Bank, the Divisional Institutes and your own Federation have been called into being. You are also considering the question of rural uplift. This work, to be successful, postulates, amongst other things, a large body of voluntary workers, imbued with the spirit of service, and a co-ordination of the activities of various Departments operating in rural areas to a greater degree than obtains at present. May I hope that the co-operative movement will produce such workers from within its ranks, and that your deliberations will result in the formulation of some concrete suggestions for greater collaboration between the various Departments ?

Gentlemen, I do not wish to stand any longer between you and the discussions which await you. My colleague, the Hon. Mr. Kedar, and I myself will look forward with more than usual interest to the report of your proceedings and we shall examine with sympathy *any proposals you may have to make for the* consideration of Government. Gentlemen, I once again thank the Federation for its invitation to me and wish its session every success.

The Bengal State Aid to Industries Bill.

The following is an extract from the proceedings of the Committee of the Bengal Chamber of Commerce for the month of November, 1928 :—

It was mentioned in the Abstract for July that the Committee were considering, in consultation with the Industrial Legislation Sub-Committee, the provisions of the Bengal State Aid to Industries Bill, 1928. Subsequently members of the Chamber were invited to submit any criticisms or suggestions which might occur to them with reference to the Bill, and the replies received were considered in detail. As a result the views of the Chamber were embodied in a letter addressed to the Government of Bengal, Legislative Department, from which the following is an extract :—

The object of the Bill, which has been under consideration for a considerable time past, is explained, in the Statement of Objects and Reasons, as being to obtain statutory power to enable State aid to be given mainly for the purpose of encouraging cottage industries, and industries on a small scale, in the shape of loans, guarantees, the provision of a hire-purchase

system and so on; and a Board of Industries is set up in the Bill for the purpose of advising Government on applications for such aid. The Bill is, it is stated, modelled on similar measures enacted in Madras and in Bihar and Orissa in 1923.

The Chamber may say at once that they are in sympathy with any measure which is likely, with reasonable conditions, to help small industries. They recognize the difficulty of framing, for incorporation in the Act, a limiting clause so as to ensure that assistance is restricted to what are genuinely cottage industries, or industries on a small scale, but if no such clause can be devised it will be necessary to rely on the Board of Industries, and on the Local Government to see that the intention underlying the measure is fully observed in practice. The definition of "industry" in Clause 2 (4) is comprehensive, and reading it along with Clause 20 (a) (ii) it would apparently be quite open to grant State aid for the establishment and encouragement, say, of a jute mill industry in a district of the province where it does not now exist. There would of course be the greatest possible objection to the application of public funds, under the protection of the Act, to such a case, and the selection of enterprises for assistance will have to be undertaken with considerable care to ensure that there is no expenditure of public money on objects which do not properly come within the limits contemplated by the Bill. Another danger that will have to be avoided is the possibility of Government being pressed to invest money in industrial undertakings: and with this in view the Chamber is strongly of opinion that the taking of shares and debentures suggested in Clause 19 (1) (c)—should in no circumstances be permitted as one of the forms of State aid to be given. The Chamber is opposed to State partnership in industry and urges that this sub-clause should be entirely omitted from the Bill.

The Chamber desires to add certain criticisms of particular clauses of the Bill. They suggest that the number of members on the proposed Board of Industries—Clause 3—should be increased by one so as to provide for the representation of the Indian Chamber of Commerce. In Clause 8, relating to the removal of members of the Board, they suggest that an alteration should be made to provide that any member who is absent from four consecutive meetings of the Board, without having previously obtained sanction from the Board, or who is absent for more than four months continuously from the jurisdiction of the Board, shall automatically vacate his seat; they consider that this arrangement is preferable to the permissive proposal in the Bill as drawn.

Clause 19 deals with the forms which State aid may take, and the first of these—19 (1) (a)—specifies the grant of a loan, with the provisos, *inter alia*, that no such loan shall exceed seventy per cent of the net value of the assets of the industry to which it is granted and that every such loan shall ordinarily be repayable within not more than twenty years. The Chamber considers that these limits are too liberal: the amount of the loan should not exceed fifty per cent of the net value of the assets and the repayment of the loan should ordinarily be required within ten years, subject however, to an extension of the period of repayment by the Government on the recommendation of the Board. With regard to Clause 19 (1) (c), the Chamber has already expressed the opinion, in paragraph 3 above, that the taking, by the State, of shares and debentures in an undertaking should not in any circumstances be allowed as a form of State aid.

In Clause 19 (2) it is provided that when State aid is granted by way of grant on special terms of land, raw material, etc., or by payment of a subsidy for the conduct of research or the purchase of machinery, the Local Government shall ordinarily fix a period of years and a rate of interest on the capital invested; and that if, within such period, the industry pays a rate of interest or a dividend in excess of the rate so fixed, the value of the aid granted shall be paid at the expiration of the period. And Clause 22 (2) provides that, during the continuance of State aid in any form, no dividend shall be paid to shareholders, and no profit taken by the owner in excess of such percentage rate upon the amount of the paid-up capital invested in the industry as the Local Government may fix. The Chamber does not consider these provisions to be satisfactory. It seems to them and they hold the view strongly that the first charge on profits should be the return of the loan from Government and not the payment of dividends. At any rate there should be a provision that at least twenty-five per cent of the profits should, before any dividend is paid, be placed to reserve, as is usual, for example in the rules of a Co-operative Society; and, where the aid has taken the form of a cash loan, provision should be made to the effect that a sinking fund be created out of the profits, such sinking fund being separately invested and earmarked for the repayment of the loan so that, on the expiry of the term for which the loan has been granted, an actual investment will be available wherewith the amount of the loan can be repaid to Government. In Clause 20 (c), there appears to be a misprint. "In the forms specified in clauses (b), (g) and (i) of the said sub-section" should, it would seem, read "in the forms specified in clauses (b) and (g) (i) of the said sub-section."

Social Reconstruction.

Mr. Gopal Krishna Devadhar, M.A., President, Servants of India Society, writes in the *Forward Annual*:—

The great handicap to our rising to the high water-mark of the advanced nations of the world, is the pernicious social system that governs the life which, broadly speaking, the Indians or the Hindus lead. Indeed it is the bad blood of the modern caste system in the present day body-politic that renders futile all attempts of the people at being masters in their own home. No society that is split up into innumerable water-tight compartments, condemned by religion to move in a vicious circle, can venture to play with the fire of Democracy. At a time when the Indians or the Hindus were free, they made ill use of their freedom by creating permanent barriers of the caste system between man and man; there were also enacted such indefensible laws as laid down that menial labour was undignified and sanitary offices all the more so. Without taking thought for the morrow, likewise, people were taught to glorify those who indulged solely on metaphysical speculation and in order to perpetuate their importance, built the fabric of caste system from which were rigidly excluded large masses of our brethren as totally unworthy of human association because of the avocation they had to follow in obedience to the accident of their birth.

BIRTH *vs.* WORTH.

In one word, the faulty social order recognized *birth* as the factor to determine man's social position and not his *worth*. This same distorted view of human life and capacity claimed the women also for its victims. Under the laws of the Hindu realm, she was disinherited, turned funeral pyre of her earthly lord as into a

..lpless chattel, to be married in childhood and at last ..nt on the prize of her unwavering devotion. In the ..formance of social and political obligations the ..rests of the favoured castes and therein only of the ..minating sex came to be specially watched and ..moted. Having none to question the why and ..erefore of such actions the misguided priestly classes ..d those who followed their lead exploited religion ..secure their own advancement, and in fact distorted ..t even unfair ends. Thus fell a mighty nation to ..h inglorious depths that even elaborate coaxing did ..t help it to make even a feeble attempt at rising. ..e whole system was poisoned and it now stands in ..e urgent need of being set right by means of very ..licious methods.

THE SOLVENTS.

Broad-based cultural education of the masses of men ..d women at all costs will be one of the solvents of ..s utter hopeless degradation. Educate, and in the ..me breath, enforce such social legislation as Musta..ha Kemal Pasha does, in order to disarm caste, or ..therwise a worse doom awaits the Indian. As he is, let ..im learn to kick at the chains of his own binding for ..hat it is worth, they will only cling faster round his ..eck: for the greatest enemy of the Indian is the ..ndian himself. And in the sage words of the Geeta:—

We have ourselves to supply the lever to lift us up, for the Lord Shri Krishna says:

"We alone can make or mar our destiny." We are our own enemy as we are our best friend.

SOHAN TRAVASHIR.

Freedom never favours the suitor who denies it to the woman and to his low caste fellow man. Let every Indian first help the woman and outcaste by giving them a fair chance to choose their particular destiny and then turn his attention to the fancied robber of his liberty at the gate. What they further essentially need in addition to robust education is a modern economic outlook and independence. Everything primitive will only reduce his or her economic value to the society and make him or her a drag on the society. Intensive industrial life in which he or she takes his or her active part will work wonders. A citizen who is unable in his own way to produce wealth in some measure is a dead weight. Every Indian to his job at home, a model husband of a free and model wife—in community a democrat of democrats, helping to bring about a fair amount of production and proper distribution of wealth—that way lies India's glorious redemption based upon a newly ordered Social Reconstruction knit together by ties of social fellowship and true humanity. That way lies social happiness—the ideal of Human Race.

Books in Brief.

Short Reviews of Recent Books.

The Woman with the Basket.

By Catherine Webb, the Women's Co-operative Guild, 20, Winchester Road, Hampstead, London, N. W. 3. pp. 291. 1927.

A prominent English guild worker has marshalled in this volume the very interesting story of the Women's Co-operative Guild step by step from the earliest beginnings of its many-sided interests with its co-operative and public activities to its present position of a soundly planned and stabilized organization for their social and political emancipation. It is inspiring to read the spirit of service that permeated Britain's pioneer women who rendered signal service in effecting many beneficial changes which would have perhaps been denied but for their united co-operative effort. It makes us fondly hope that Indian women would try to improve their lot in a similar manner. The lesson of the power that English Women's Co-operative Guild have achieved for themselves should serve as a powerful stimulus for Indian women to organize themselves into a united body to reap the blessings of co-operative guilds. This is a book that should be on the shelves of every library of a Girls' College or High School in India.

Post-War Germany.

By K. T. Shah, Professor of Economics, University of Bombay. Published by D. B. Taraporevala Sons & Co., Bombay. Price Rs. 2-8-0. pp. 227. 1928.

This book is quite reminiscent of the author's now well-known study of Soviet Russia entitled *The Russian Experiment*. Professor Shah's vivid presentation of the marvellous reconstruction of Germany after the chaos of the World War has its obvious moral to work our own regeneration. In fact his main purpose is to acquaint us that the German recovery out of an impossible situation is proof positive that we must also emerge triumphant provided we work consistently along the right lines with a united national will. In that Germany stands as a supreme example of the will-to-win the way to prosperity. This study was delivered in the form of University of Bombay Extension Lectures and embraces, among other matters, the political and economical reshaping of Germany under Republican auspices. Space forbids us to give this volume the detailed review that it richly deserves, but readers may be consoled that a reading of *Post-War Germany* by scholarly members of the gradually forming Indian school of economics would make them forget the money invested on it. We also congratulate Messrs. Taraporevala Sons & Co. for the enterprise they have displayed in issuing these lectures in book form for the benefit of the general reading public.

A History of India.

Part I: Hindu India. By Professors C. S. Srinivasachari, M.A., and M. S. Ramaswami Aiyangar. Published by Messrs. Srinivasa Varadachari & Co., Mount Road, Madras.

This is a laudable attempt to present the history of Pre-Muhammadan India for beginners in a simple and readable form. The authors have, on the whole, done their work with care. They have laid under contribution the latest writers, European and Indian, and though occasionally they may appear too recondite for students, they have steered clear of the difficulties that

beset scholars in writing for lay readers and school students. The book is comprehensive in its outlook and in the treatment of topics shows a due sense of proportion. The cultural aspects of progress are given their due share while the political struggles of kingdoms and dynasties are not by any means neglected. Dr. Radhakumud Mookerji bears testimony, in an introduction he has written for the book, to its general soundness both as a general and local history of India. Solely with a view to remove an error that has crept into the last page of the book, we would point out that the side note "Madhava" in the last para on that page should be "Madhwa." Prothero and Satischandra commited the mistake of confusing "Madhava" with "Madhwa" following a mistaken note of Aufrecht and it is a pity that the error should be perpetuated in a school book of this type. Nor is it correct to state as the authors do that Madhwa "held the adoration of Siva in scorn". Though he rejected the Maya doctrine of Sankara, he did not "scorn" the worship of Siva. On the other hand he reconciled the worship of Siva with Vishnu. As errors of this kind are likely to mar the usefulness of a book of this nature, we have taken the liberty to point them out with a view to their rectification in a possible next edition. Apart from them, the book ought to find its ways into schools and colleges, as it seems well fitted to be a general text-book for the Pre Muhammadan History of India.

Three Speeches on the General Strike.

By Rt. Hon. Sir John Simon, M.P. With an introduction, diary of events and appendices. Published by Messrs. Macmillan & Co., London, Bombay and Madras. 2s. 6d. net.

Now that the Simon Commission is nearly closing its work in India and is about to leave for England, and there has been visible some speculation about the trend of its views, it is well worth noticing the three great speeches Sir John Simon made in 1926 against the General Strike in England. The point he made in these speeches the first and second of these were made in the House of Commons was that a general strike was an unconstitutional act and as such an illegal one; in fact, it was a revolutionary act aimed against the Constitution. In developing this point in his speeches, he confessed to certain personal beliefs and tendencies which are well worth noting at this juncture in India. These are:—(1) The will of Parliament should not be substituted by the will of the strikers; that would mean the overthrew of Constitutional Government, (2) There is a legitimate way of getting Parliament do what you might desire but any attempt to get more by means of a general strike is illegal. (3) Every Government must pursue a positive, active, consistent policy if it is going to lead the nation out of the great difficulties that confront them. (4) You would be misjudging British character if you thought you could possibly secure public support for any cause if you believed in operations which are designed to put inconvenience and possibly danger upon the general inhabitants of their land. (5) Law is not the whole life. There is, apart from the legal question, a much bigger question, a constitutional question, a Parliamentary question, and that, side by side with that, there is a *social question, an industrial question, and a human* question. Though these are presented here as naked propositions, they show unmistakably the trend of Sir John Simon; he stands for the supremacy of Parliament and no wonder that he is against yielding to Indians in the matter of devising a constitution for themselves. *He will, doubtless, in due season admit* in his own words that His Majesty's Government have paid "a big price" for buying time from Indians. "*Not yards of cloth or tins of salmon—but time.*" As he is disposed to concede, "It is no good buying time at so prodigious a price unless good use is made of the time you buy," His Majesty's Government have had—*so far as* India is concerned—ten years to make up their mind and they have paid a heavier price than they paid for the General Strike in England, but will they at least use the little time that is still left to useful purpose? It may be, as he will on reflection concede, that they "are too much controlled by a few people" who *are reactionaries*. But his duty to himself and to his own country and Parliament in view of the enumeration of first principles that his speeches herein presented contain, ought to tell him that the "ultimate cure" for Indian troubles is not to be sought merely in the drafting of clauses and amendments, but in a frank *recognition of the fact that the whole relation between*—to alter his wording to a small extent—India and England calls for sympathetic revision. He rightly observes:—"In imperial affairs, we have learned the lesson that the causes of turbulence cannot be removed by mere repression, and that the remedy for discontent is a *share in the task of government.*" *May not this* same doctrine—we may be permitted to ask in his own words—have its counterpart in the Indian sphere of His Majesty's Government? As he observes, "the cure for irresponsible vehemence is increased responsibility", for as Burke long ago observed people have no interest in disorder as it does not enure to their benefit. Sir John Simon might, if he chose, with the grasp he has of high political principles, yet prove the true salvation of the British cause in India. If he will but refuse to be mismanaged in the matter he has on hand and rise high to the call that has come to him, he may yet win through with the Indian politicians who are no whit less interested in the progress of their own country than himself and his own countrymen.

How We Are Governed.

By Sir John A. R. Marriott, M. P. Oxford University Press, London, Bombay and Madras. Price 2*sh.* 6*d.*

This is an excellent addition to the "World's Manuals" issued by the Oxford University Press. So good a book as this requires very few words to commend it. Good vine verily needs no bush. Those who are acquainted with Sir John Marriott's ***English Political Institutions*** and ***The Mechanism of the Modern State***, know what to expect from this book. It is full of meat. The title of the book goes back to Fourblanque, but seems to be good and as expressive to-day as sixty years ago, when he wrote his book of identical title. Sir John attempts to impart precise knowledge on the political institutions of England and of the British Empire as a whole. Within a hundred pages or so, much matter of extreme interest is compressed and yet with an accuracy which is surpassing. As a *vade mecum* for the busy politician, it is bound to fill a useful role.

The Indian Textile Journal, Bombay.

The new year has ushered in the above foremost Textile Journal in India in a new and more attractive form. The excellence of get-up and the quality of matter that it contains undoubtedly have proved the Journal's popularity as a pioneer representative *of the textile, engineering and electrical industries* in India. We warmly congratulate the Editor and Proprietors for making the *Indian Textile Journal* what it is now.

The Mysore Economic Journal

A Monthly Periodical devoted to the Discussion of all Economic Topics of Interest

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Mysore Economic Conference.

By the Editor.

The 20th session of the Mysore Economic Conference was held on the 15th and 16th March 1929 with Amin-ul-Mulk Mirza M. Ismail, B.A., C.I.E., O.B.E., Dewan of Mysore in the chair. The Dewan opened the Conference with a short Address in which he said *inter alia* :—

The Board of Education in collaboration with the Board of Agriculture have worked out a definite scheme of rural science instruction, with special reference to agriculture. The central idea is that Middle Schools in rural areas should be given an agricultural basis by including agricultural training in the curriculum, thus bringing the instruction imparted in them into live relation with the environment of the pupils. The subject has been dealt with comprehensively, and a scheme has been prepared which, if it meets with the success it deserves, will be a great step forward in the solution of one at least of our educational problems, *viz.*, the proper adjustment of instruction to actual conditions of life.

The Colonization Scheme under consideration by the Board of Agriculture has taken a definite shape and proposals received from the Director of Agriculture are under consideration. Special importance attaches to this scheme, as it is calculated to furnish a convincing test of the value of the agricultural instruction imparted at present, turning out practical men competent to lead the agriculture of the country, and also to demonstrate one method of developing the rich natural resources of some portions of our Malnad. The Report of the Royal Commission on Agriculture is being studied with a view to see how far their findings are applicable to Mysore and Dr. Coleman has a resolution standing in his name on one of the recommendations of this Commission.

The report of the Committee for organizing financial assistance to Industries in the State is before you. It is, as you will no doubt agree, a most interesting and I may add, instructive document, containing as it does, not only weighty recommendations as to our future industrial policy but a masterly review of the progressive stages in the evolution of ideas in regard to the duties of the State in the domain of industries and the principles which govern, and the conditions which limit State action for aiding industrial development. You will be glad to find that in Mysore, most of the well-recognized forms of assistance are already in practice and that our system has been cited as an instance of an effective mechanism shaped by experience. The recommendations of the Committee embodying as they do the results of a study of both principles and local experience is worthy of the most careful consideration. We may, if time permits, discuss the salient features of the report to-day.

The Taxation Committee Report is also before you. This Committee had the inestimable advantage of being presided over by Sir Charles Todhunter who has in a sense made the subject his own, and its recommendations come with the weight of his special knowledge and mature experience. I am sorry he has been unavoidably absent to-day, but I shall ask Mr. N. S. Subba Rao whose report on Taxation in Mysore was the basis of the Committee's deliberations to explain the proposals as briefly as he can.

The Hand-spinning Industry has progressed continuously and the success of the centre at Badanval will probably lead to the organization of intensive work in other suitable places.

Considerable attention was paid to Poultry Farming not only at the Poultry Farm in the Lal-Bagh but all *over the State ; the District Economic Superintendents* have been asked to encourage it in every way.

At the last Conference it was observed that the reports of the District Economic Superintendents drew no clear line between the activities for which they were themselves responsible, and those which were due to other agencies. This has been remedied in the present reports which show the former in Part I and the latter in part II.

Government took advantage of the presence of Sir Alfred Chatterton in Mysore to request him to make a general survey of our principal industries and offer suggestions as to the lines of future development. He has inspected some of the more important concerns run by Government and has furnished many interesting and useful suggestions. I will ask him to favour this meeting with a brief statement of his impressions and views.

Among the more important topics discussed were the Colonization Scheme proposed by the Agricultural Board and the Report of the Committee on State Aid to Industries. In discussing the latter, Sir Alfred Chatterton threw out the suggestion of the forming of a manufacturers' association for securing financial aid by means of a mutual insurance association.

There is something to be said in favour of this suggestion and it would prove useful if Sir Alfred could elaborate the idea for the information of both the Government and the general public. His suggestion of the utility of the system of Managing Agencies in providing Capital is no doubt one to be borne in mind but from the recent criticisms levelled on the system it is a question if it has not outlived its usefulness in this country. We would, however, remark that the system, in the hands of foreign capitalists, has done much to open up the country, for the Managing Agencies have not only brought cheap foreign Capital into India but also business enterprise and knowledge. As was remarked not long ago by the *Pioneer*, the system is unknown to Company Law as such and is peculiar to India and the Malay States. A great deal has been written to rectify the abuses which have crept into the system, and even legislation has been urged to rectify the gross abuse of their position by certain types of Managing Agents. There is something to be said on this score, but the system has worked well and is still capable of some use in this country, if the law sets some limits on its use and abuse in the interests of the general body of shareholders of a concern.

The consideration of the Taxation Enquiry Committee's proposals could not be taken up by the Conference for want of time. In view of the importance of the suggestions made and their far-reaching character, the time taken for thrashing them out cannot be said to be wholly wrong. Seeing that a system of taxation that has no public support behind it is not likely to appeal, it is as well that the consideration of this Committee's Report has been adjourned to another session of the Conference.

The Indian Peasant in History.

By W. H. Moreland, C.S.I., C.I.E.,

Formerly Director of Land Records and Agriculture, United Provinces.*

What I have to say this afternoon arises directly out of the report of the Royal Commission on Indian agriculture; but I do not intend to summarize that rather formidable document, still less to criticize it in detail.

As for a summary, the report presents more than 600 important conclusions; and any attempt to compress them into half an hour or so would necessarily be unfruitful. As for detailed criticism, my view is that at the present juncture it is likely to do more harm than good. The outstanding feature of the report is its insistence on the need for a co-ordinated policy of rural reconstruction, a mass attack on the causes of poverty, waste and inefficiency. All the specific conclusions, important as they are, are by comparison matters of detail; and those who accept, as I unreservedly accept, this fundamental recommendation, will do more good by uniting to press for early and effective action, than by insisting on their individual views on this topic or on that.

The criticisms that have been appearing in India during the last few months show what I mean. You find, as a rule, a sentence, or even an entire paragraph, testifying to the excellence of the Report as a whole; and the rest of the article consists of vigorous destructive criticism of some particular set of recommendations. An excellent report, says one critic, but it's all wrong about the cattle. An admirable report, says another, but it's all wrong about the colleges. Others attack the proposed scheme of finance, or the organization for research, or any one of a dozen different topics, each of them important, but all of them subordinate to the main issue; and in point of fact we have a revival of the time-honoured Asiatic practice of stoning an offender to death. Two or three stones may not hurt very much, but in the end the victim succumbs to the multitude of missiles. I confess that, like other critics, I have a few stones ready to my hand, but I have not come here to display my marksmanship in public. It is much better, I suggest, to leave the necessary detailed criticism to the keen brains of the administrators who have to translate the new policy into fact; the best service we others can do is to concentrate attention on the need for prompt and effective action, instead of providing excuses for the people who want to do nothing, or the more dangerous enemies who want to do nothing but talk.

The question to which I wish to invite your attention to-day is one with which the Commission was not required to deal. Why was this Commission wanted at all? How has

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* Paper read before the Indian Section of the Royal Society of Arts on March 1929, published through the courtesy of the Secretary, Royal Society of Arts, London.

this urgent need for rural reconstruction arisen? Why is it necessary to mobilize all the forces of India in order to get the peasants to do what you and I would be only too glad to do if we had the chance—make a little more money, and live rather better than we do at present? That is not a normal state of affairs. You will not find it, for instance, in other parts of the Empire; and I well remember ow the ifference struck me when I paid a visit to Australia about thirty years ago. In India I had left the departments trying, not very successfully, to hustle the agriculturists; in Australia I found the agriculturists hustling the departments, and with a substantial measure of success. What are the causes of this difference in attitude?

An enquiry of this kind is worth making. At the beginning of a long and arduous campaign, such as the Commission urges, it is well to learn all you can about the enemy—not merely the positions he occupies at the moment, but how he has reached those positions, how they are connected with his base, and what hidden reserves, or hidden weaknesses, lie behind. It may fairly be said that most of the mistakes we made in India a hundred years or so ago were due to our ignorance of what had gone before; and now, at the outset of this new enterprise, it is well to try and eliminate that particular cause of inefficiency.

If you look through the literature of the last century you will find that various theories, or guesses, have been put forward to account for the distinctive mental attitude of Indian peasants in the mass. The oldest and simplest of these theories is that the peasant was made that way; but the world has passed the stage where such theories of special creation had to be taken seriously, and it is enough to point out that this view is contradicted by the facts. Indian peasants, as I have known them, are neither placid nor contented. They grumble at least as much as we do, and, like the rest of us, they have their ideals of a better life; but they have also what it is the fashion just now to call an inhibition, which prevents those ideals from being translated effectively into action, and the question is how this inhibition has come into existence.

A common theory is that it is all the fault of the climate. The answer to that theory is that the climates of India are of all sorts. Every authority, from the *Imperial Gazetteer* down to the latest six-penny handbook, insists on the diversity; and for my part I find it hard to understand how all these different climates can have produced a uniform effect. Let us remember, too, that our predecessors were accustomed to explain differences inside India by these same differences of climate. When, for instance, Akbar's historiographer royal wanted to explain why there was so much sedition in Bengal than in Agra, he found a simple and convincing explanation in the peculiarities of the Bengal climate, which notoriously bred sedition. I do not say he was right, either as to the fact or its explanation; but I think his reasoning was rather less unscientific than the theory that a uniform result can be attributed to such a heterogeneous entity as the Indian climate. We may agree that over large portions of India the natural conditions are unfavourable to continuous effort. That fact undoubtedly increases the difficulty of rural reconstruction, but it cannot by itself explain why reconstruction is required.

Another theory is that the peculiarities of the peasant's mentality are entirely the result of his diet. Of course, Buckle is out of fashion nowadays; but some recent scientific work in India suggests that there may possibly be something in this view. In some parts of the country, particularly the rice-eating tracts, it is quite possible for a man to eat too much and yet starve; he may get more calories of energy than he needs, and yet get too little protein to maintain his body in reasonable vigour. That kind of deficiency would go some way towards explaining the phenomena we are considering; but it would not help us in the North where the ordinary diet of cereals and pulses is well balanced, and will keep a man in vigorous health, if only he gets enough of it. If peasants in the North are underfed, as some of them are, it is part of the problem of poverty, not its primary cause; they eat as much as they can get, and what is wanted is to convince them that they can get more, if they set to work in the right way.

It seems to me, then, that these physical and physiological theories do not carry us far. As against them, I suggest that the main cause of the distinctive mentality of Indian peasants is to be found in the human environment, in the regime to which they have been subjected during the historical period. A survey of that regime shows that it was precisely of the kind which an expert psychologist might prescribe in order to produce the mentality which now exists. It enforced and stereotyped a very *low standard of living; it penalized all enterprise*; it denied all reward to the peasants; and it offered rewards of almost unbounded magnitude to the men who could exploit the peasants with success. Let us see how this regime operated through the centuries.

We first meet the Indian peasant in the Dharma, the Sacred Law of Hinduism. His position there was simple. We read little or nothing about rights; but we find that the peasant's duty was twofold—to cultivate the land, and to pay a share of the produce to the King. That fact is important. Right into the nineteenth century the idea persisted that cultivation was a duty to God and to the State, not a right to which the peasant was entitled; and probably the old idea still lingers in some of the backward parts of the country.

We have no records to tell us how this Sacred Law worked in practice; but obviously the essential question was the amount of the share claimed by the King as his revenue. If it amounted to a rackrent, leaving the peasant nothing to hope for, we have substantially the regime I have described; if it left the peasant a reasonable reward for effort, the conditions necessary for progress may have existed in the Hindu period. I do not know which alternative is true for this period as a whole, but there are signs that the King's share tended to increase as time went on, and that it came, at any rate, very near the danger point.

In the earliest texts the share which might be claimed by the King varies from a sixth to a tenth or a twelfth. This is quite a reasonable proportion though higher than is now considered proper. Presently, however, we find the smaller figures disappear, and the former maximum becomes the standard. Then we read of "what is called a sixth"; and a commentator explains, in language which almost recalls the methods of Somerset House, that the phrase "a sixth" includes a third. We may take it then that Hindu kings eventually claimed about a third of the peasants' produce; and we know that until quite recently the claim in Hindu Rajputana ranged from a third to a half.

It is impossible to speak with precision as to what constituted a rackrent in those early days, but it is safe to say that a third was dangerously near, and that a half left the peasant practically nothing but a bare subsistence. It is quite possible, then, that rackrenting prevailed in Hindu times, extensively if not universally, but there is too little evidence to justify a conclusion: all that can be said is that it is dangerous to take the figures given by text-writers such as Manu as an accurate presentation of the practice of the later period.

We are on firmer ground when we come to the twelfth and thirteenth centuries when the period of Moslem rule began. The religious law of the Moslem conquerors recognized, if it did not formally prescribe, a regime of rackrenting. Under that law the conqueror had a perfectly free hand, and it was open to him to dispossess unbelievers and distribute their land among his Moslem followers; but if he left the unbelievers in possession, as was done in India, the idea was that the profits of agriculture should enure to Moslems and not to Hindus. The conqueror claimed a share of the produce just as Hindu kings claimed a share, but there was no arithmetical limitation such as is found in Hindu law, and may have been effective in Hindu practice. The only limit recognized by Moslem jurists was the risk of driving the people off the land; and in practice that means rackrenting. So long as the peasants did not rebel or abscond, it was lawful to take all they could be made to pay.

This legal theory is by no means unimportant. It is true that in India many Moslem rulers ignored Islamic law in their administration; but any Moslem who wanted to rackrent could do so with a clear conscience, a thing which counts in practice. Further, there was no possibility of religious opposition to rackrenting, such as occurred in some parts of Europe. In India, the religion of the rulers was on the rackrenter's side. Practice, however, is more important than theory, and the practical question is, how Indian peasants, in fact, fared under Moslem rule.

Here the authorities we possess require rather careful handling. We have glowing accounts of the work of a few agrarian reformers, great kings like Sher Shah or Akbar, sagacious ministers like Todar Mal in the North, or Murshid Quli in the Deccan, men who tried to treat the peasants equitably, and confine the claims on them within reasonable limits. The work of these men naturally receives prominence in modern text-books; and the ordinary reader is apt to conclude that care for the peasant was a feature of the period taken as a whole. This was certainly not the case. Measured either by time or by area, these prominent events are mere episodes; when you reckon them up they account altogether for perhaps less than fifty years out of the six centuries of Moslem rule; and for the great bulk of the period the fortunes of the peasants were in the hands, not of great kings or sagacious ministers, but of a multitude of intermediaries, each man intent only on filling his pockets, and precluded, as I shall show, from doing anything in the way of permanent improvement. These intermediaries are the key to the agrarian history of the period; they were of various types but the two figures which

stand out decisively are the revenue-assignee and the revenue-farmer.

An assignee was usually one of the officers of the kingdom, and as such entitled to a salary defined in cash; but instead of being paid from the treasury, he was given what was called a *jagir*, that is to say, a district which was estimated to yield the amount of his salary as land-revenue: and it was his business to assess and collect the revenue from the peasants so as to obtain the promised salary, while it was his obvious interest to make the assignment yield more.

It is quite safe to say that the *jagir*, or assignment, was the most important agrarian institution of the Moslem period in India. You meet it all over the North, and almost all over the Deccan and Gujarat. One or two rulers tried to do without it for a time, but it always came back; and ordinarily more than three-quarters of the country was in the hands of assignees, who must thus be regarded as the peasants' real masters. What was the attitude of these masters?

To begin with, habits of luxury and extravagance prevailed among the ruling classes almost throughout the Moslem period. There was therefore constant and urgent need of money, which the peasants had to find. At the same time, there was an intense desire to accumulate large fortunes, and these, too, had to be provided by the peasants. To outshine your fellows in your lifetime by extravagant display: to outshine them after death by your hoards of cash and jewels: these were the chief social ambitions of the class from which the assignees were drawn.

In theory, two courses were open for their realization. A man might set to work to develop his assignment, investing capital, encouraging the peasants to improve their production, waiting some little time for the result, and eventually enjoying a steadily increasing income drawn from the increasing prosperity of the peasants. That course was definitely ruled out by uncertainty of tenure. An assignee might be shifted every year, or he might be able to retain his holding for some time; but he never knew from day to day what his fate might be. The struggle for productive assignments was very keen; to invest capital, or leave resources in the peasants' pockets, would have merely been to invite other claimants to come forward. The only prudent course was to squeeze your assignment dry, and then set to work to get transferred to one which still held a little money. That was the ordinary state of affairs throughout the Moslem period.

Now let us look at the other figure, the revenue-farmer. Perhaps you will say that there is not too much room for him, with so much of the country held in assignment; but assignees commonly farmed out the revenue to which they were entitled, so that farmers were numerous. Again, when land was reserved for the royal treasury, the officials often either let it in farm, or took the farm themselves; in either case, there was someone besides the treasury looking for an immediate profit. The characteristic of all these farms was their short duration. A year was the ordinary period; and three years is the longest I have read of up to the eighteenth century. Obviously, then, no farmer could dream of carrying out a policy of development; like the assignee, the farmer was bound by the conditions of his tenure to squeeze the country dry.

Again, it must be remembered that competition for these revenue-farms was usually keen. Farming was a regular business or profession; and success in the face of competition depended on ability, first to obtain a district with some money in it, next to extract that money out of it, and lastly to keep other competitors away until the mine was nearly worked out. All this involved the existence of some very undesirable classes, spies and informers, touts to push the farmer's interests, and "wreckers," as they were aptly called, to discredit his competitors. The final result was a large number of experts, who depended for their livelihood on gathering in every penny that the country could be made to yield. In essentials, then, there was little to choose between farmer and assignee.

In one respect, however, there was an important difference. The farmer's person was pledged for the fulfilment of his contract, and the penalties for failure were drastic. There are records of defaulters being flayed; but this measure was, I think, quite exceptional. Something more gradual was preferred, and an ordinary method was to keep the defaulter in prison, and flog him or torture him with rack and pincers, two or three times a week, until he either found the money or died of his wounds. If then farmers stripped the country clean, they often had a very strong motive for doing so; it was flog, or be flogged.

Ordinarily, then, the peasants' masters must have had the will to rackrent; they also had the power. You will remember that production and payment of revenue constituted a duty to the State; and flogging was a prescribed penalty for peasants who failed in that duty. Further, the practice was to sell the wives and children of defaulting peasants as slaves. With

these powers at their disposal, assignees and farmers were in a strong position: peasants could rebel, or abscond, but short of such action they were helpless.

Perhaps the best illustration of the position, as it had developed, in what some people like to think of as the golden age of Shah Jahan, is the argument which Francois Bernier put into the mouths of the assignees and farmers, with some of whom he was on familiar terms. Why, he makes them ask, " should the neglected state of this land create uneasiness in our minds? And why should we expend our own money and time to render it fruitful? We may be deprived of it in a single moment, and our exertions would benefit neither ourselves nor our children. Let us draw from the soil all the money we can, though the peasant should starve or abscond, and we should leave it, when commanded to quit, a dreary wilderness." To that argument there was no effective answer.

Such, in bare outline, was the regime under which the mass of the peasants lived and worked in Moslem India. The question naturally arises whether things were better in those parts of the country where Moslems did not rule. Here precise information is wanting; but there are signs that in the north and centre of India things were sometimes rather better in the Hindu States, because peasants sometimes sought a refuge there when oppression became intolerable. In the South, on the other hand, we know that over large areas farming prevailed in the worst possible form, the farms being auctioned yearly; and with that system it seems to me that rackrenting must have been inevitable.

One other factor in the situation must be noticed. The idea that the farmer or assignee should be content with a specified share of the peasant's produce did not wholly disappear. The recognized share ranged usually between a third and a half, that is to say, at or beyond the danger point; but in addition to the basic claim, there were traditional supplementary demands, which in the aggregate made a substantial addition to the burden. Everybody concerned in the assessment or collection of the revenue wanted something for himself, " the tenth and the half-tenth," " the one per cent" and the " two per cent," the fee for measuring the land, the fee for estimating the produce, and all the other traditional items which we hear of only in the records of unsuccessful attempts to prohibit them or regulate their amount; and these supplementary exactions must have operated to produce a clean sweep of everything the peasants were known to have in their possession. The regime under which the bulk of the Indian peasants lived during six centuries may thus be described briefly as rackrenting, under the whip.

The essential features of this regime may be summarized as follows: In the first place, no constructive policy of development was possible. The idea of development was indeed present, at any rate, from the fourteenth century onwards. Ghiyasuddin Tughlaq, the old soldier-king, held that governors and collectors could make or mar the kingdom; and he insisted on their duty to strive for steady extension of cultivation, with a gradual rise in revenue, not for such an immediate enhancement as should ruin the country. His doctrine, however, had no effective force, and his brilliant but eccentric son devastated a large area merely by the severity of his assessments, which drove the peasants into rebellion. In later periods, also, we meet similar ideas from time to time, but they scarcely ever came to fruition; the needs of the moment were usually too pressing for anyone to think about the future.

In the second place, there was no chance of a rise in the peasants' standard of living. No peasant could dare to be seen spending money, for that would mean increased demands by his masters. It was much better to bury money than to spend it.

In the third place, the life of a peasant had, at the best, very few attractions. It was much better to be a parasite than a producer; the parasite carried the whip, the producer must expect to feel it.

The essence of the whole agrarian system was thus a barren struggle to divide, instead of a concerted effort to increase, the produce of the country. The peasant tried, sometimes successfully, to hide his gains: his masters tried to discover and appropriate them. It seems to me to be beyond dispute that such a regime, prolonged through the centuries, would of itself suffice to produce the type of peasant which the earliest British administrators found in India, not much more than a century ago.

The history of the short intervening period is too well known to require recapitulation, but it may be well to recall that for some time English administrators tried to work the system which they found in operation, and that the change was gradual. The whip was very soon discarded, but the nineteenth century was well advanced before the practice of rackrenting was formally condemned; it has not yet entirely disappeared, but for some time now the bulk of the peasants have been in a position to retain a portion of any profits they may make,

and to spend them without the old anxiety as to the result. That is the central fact of the agrarian situation of to-day. Just three centuries ago, some English merchants in India wrote that what was wanted for the recovery of the country was to " give the people leave to lift up their heads in one year's vacancy from oppression." It would not be true to claim that oppression no longer exists; but it may fairly be said that now, for the first time for six centuries, and possibly for sixteen, the peasants have been given a chance of lifting up their heads.

It has seemed to me worth while to bring this view forward at the present juncture. The Indian administration, in the midst of its heavy preoccupations, has been called on to undertake a new and arduous enterprise ; let us try to concentrate attention on the fact that the enterprise, though arduous, is by no means desperate. As I read the story of the past, it carries a message of encouragement and hope for the future. Recall for a moment the various theories I have enumerated as to the causes of the present situation. If we held that the peasants' apathy is the result of a special creation, we should have to admit that the only logical remedy is to scrap the peasants, and create new ones in their place. If we held that the situation is due wholly to the climate, logically we should have to set to work to juggle with the ecliptic, in an attempt to shift the Antarctic ice-cap. Even if we held that diet is the primary factor, we should have to begin by attempting to change the thing which all social reformers know to be the most difficult to change from above.

On the view I have put forward, the task before the Indian administration is less arduous, though I do not say that it is easy or simple. It has to deal with the residual effects of causes which have now almost ceased to operate. They operated in any case long enough to produce a situation of the greatest difficulty, an ever thickening crust of apathy and hopelessness, formed over the entire country ; but the crust has now ceased to thicken, and in places, particularly in the Punjab, it is obviously wearing thin. There is now scope for work which would have been hopeless half a century ago, and would probably have been premature even when Lord Curzon initiated the policy of which the Linlithgow Report is the direct outcome. There is now a reasonable hope that a concerted and sustained effort, such as the Report advises, may break up the crust once for all, may liberate the stores of energy which are now dormant, and may convince the peasants in the mass that it is worth their while to strive for the ideals thay have never wholly lost. That, as it seems to me, is the message of the past.

Trade Boards—A Solution to Indian Labour Troubles.

By N. G. Ranga, B.Litt.

The labour unions in the Madras Presidency seem unimportant when all the labour—industrial and agricultural—is taken into account. We find in this Presidency, that most of the workers are unorganizable for some time to come and that they are not in a position to pay any regular contributions to any association in order to build up a fighting fund. We also find that the employers are themselves unorganized but are capable of exploiting their workers most mercilessly. Thirdly, both the workers and the employers are unskilled, untrained and inefficient and both suffer from each other's ineptitude with the work concerned. The low wages paid to the workers are mostly due to the inefficient employers and the ill-organized industrial conditions of the country and the exploitation carried on by the employers is due to their inability to make high aggregate profits by employing a good number of workers, upon each of whom a reasonable profit is made. Moreover, the employers are not able to get a sufficient command of capital. Fifthly, there are over too many intermediaries in every trade who absorb a good bit of the price that is extracted from the consumers. Sixthly, most of our trades are based upon very, very small business units, which again permit the existence of domestic work. Naturally it is no exaggeration to say that there are hundreds of thousands of workers in such industries as the hand-loom weaving, toy making, copper and brass vessels manufacturing, furniture and glass-making, beedi and mat manufacturing, who carry on their work in their homes, with the materials advanced to them by their employers and for wages which are in most cases insufficient to fetch them enough food to live upon. In addition to these people there are as many workers who are not trusted with the materials and who are made to work in the small workshops of the employers.

These poeple are exploited to a greater extent than the 'home workers'. Lastly, we have a considerable number of so-called independent artisans whose conditions are much more depressing and who are in the hands of the merchants who advance them money or materials, to a very much greater extent, than the 'home workers' and the employees. It is therefore very easy for the employers as well as the merchants to make as much profit as possible upon them and leave as little to them as would only enable them to keep body and soul together.

The only way to better the conditions of these people is by regulating, as far as possible by some kind of State machinery, the conditions of employment and wages paid in their respective industries. It is impossible to try to organize these people since the task is such a stupendous one, beset as it is with so many initial difficulties. Moreover, it takes more than a century before even a great number of them are brought into voluntary organizations. What is to be done in the meanwhile?

Certainly all those unions which do exist should continue to function. But labour conditions in their trades or industries also must be regulated by the State. There will also be a very great necessity to organize the workers of all those industries which are regulated by the State, even after such regulation is commenced. So voluntary efforts at organizing the workers can never be given up, even if the State undertakes to look after the welfare of the workers. But the State regulation of the conditions of labour enables leaders and enthusiasts of unionism to promote their cause very much more easily and quickly than at present.

As far as England is concerned, Trade Boards are the machinery by which a successful attempt has been made to improve the conditions of the labour in the sweated industries. Similar efforts have been made more or else successfully in Australia, New Zealand, Germany and Austria. But there is a great difference in the sweated conditions prevailing in those countries and the similar conditions in this country. While in the Western countries, the number of the sweated workers is insignificant when compared to the organized workers employed in efficient and large-scale indnstrial firms and workshops, the number of the organized industrial workers is very unimportant in India when compared to the unorganized, unorganizable workers most of whom are 'home workers'; so while for those countries, Trade Boards are not of so supreme importance, they would be of immense use and significance to Indians. It is therefore instructive and useful to try to get an idea of how the English Trade Board system works.

British Trade Boards.—Trade Boards are a kind of machinery, established by Government to regulate the conditions of working, the wages paid and the organization of business prevalent in all those industries in which it is usually impossible for workers to extract humane conditions of life and wages from their employers. Almost all the sweated industries are now brought within the pale of the Trade Boards in England. In such industries "you have no organization at all on either side, no parity of bargaining between employers and employed, the good employer is continually undercut by the bad, and the bad again by the worse, the worker whose whole livelihood depends on the trade is undercut by the worker to whom it is only a second string and the feebleness and ignorance of the workers and their isolation from each other render them an easy prey to the tyranny of bad masters and middlemen, one step above them upon the lowest rungs of the ladder and themselves held in the grip of the same relentless forces."*

A select Committee of the House of Lords reported in 1890 that the evils of sweating could 'hardly be exaggerated'. The Labour Commission of 1894 also noticed how deplorable were the conditions of the workers in the sweated trades. But until *The Daily News*, Miss Gertrude, Tuckwell, Sir Charles Dilke, Mrs. Annie Besant and Mr. J. J. Mallon took up the question, nothing material was done to alter their condition. The 'Sweated Industries Fair' organized by Mr. J. J. Mallon and Mrs. Annie Besant and others drew the attention of the public to the intolerable conditions of working prevailing in these trades.

The Wheatley Committee† which visited also Australia and New Zealand to study the effects of the experiments made in those countries towards progressive labour legislation, reported that Trade Boards were working very much to the advantage of the workers in the sweated trades of those countries and suggested that an effort, made on similar lines, might also promote the interests of the sweated workers in England. The Trade Board Act of 1909 made it possible for the Government of Great Britain to bring the industrial organization of all those trades in which most of the workers were unorganized and unorganizable because they are

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* *Liberalism and the Social Problem*, by Winston Churchill.

† *Industrial Disputes*, by Lord Asquith.

employed in small numbers in each of the numerous and widely scattered factories and homes, within the pale of State activity and protection. At first Trade Boards were established with great caution for a few industries only. But as they were found to work most satisfactorily during the following ten years, the public came to have greater confidence in them. Hence the Trade Boards' Act of 1918, which gave many more powers to the Trade Boards and by which it became easier for the Board of Trade to establish a Board for any industry which it found, after an enquiry, to be badly in need of a Trade Board. Consequently the number of the Boards increased by 14 during 1918 and 1919 and by the end of 1920, another 34 were set up and by the November of 1921, the total number of the Boards has come up to 63.*

Because some of the employers did not like the increasing powers and the useful activities of the Boards, they created a very strong agitation against them, maintaining that because of the rigid rules of the Boards, it was becoming impossible for them to adjust the scales of minimum time and piece rates in accordance *with the changing conditions of the industry* and that many of the trades have passed over their probationary or convalescent stage and that their workers were properly organized and therefore there was no need for the State to interfere with their respective industries. Hence the Cave Committee, and its report. Fortunately for the Boards, the Committee came to the conclusion that the Boards were essential, that they worked for the benefit of the workers, that they helped many workers to organize themselves and that they are needed in future to safeguard the interests of the workers and the enlightened employers against the unscrupulous and inefficient employers. The Conservative Government accepts these conclusions of the Cave Committee and so it is safe for us to conclude that the Trade Boards form now an important and permanent State machine to regulate the conditions of labour in the less concentrated industries.

These Trade Boards are to be formed in that country according to Mr. Winston Churchill, who introduced the Bill in the House of Commons "in trades mainly worked by women, where no organization has ever yet taken root, where there are as yet no means of finding and focussing an effective trade opinion. Where possible, they will be partly elective; in many cases they will, I expect, have to begin by being almost entirely nominated. In some cases it will be upon the official members alone that the main burden will fall. We direct them by this Bill to prescribe minimum rates of wages. They are to find the minimum rate. The Board of Trade will not retry the question of what is the right minimum rate. They will decide whether the minimum rate which has been prescribed by the Trade Board commands sufficient support in the trade to make its enforcement by inspection and prosecution likely to be effective. When the Trade Board has fixed the minimum rate of wages, it shall, after an interval of six months, acquire the force of law and shall be enforced by compulsory powers, unless in the meanwhile the Board of Trade decides or rules otherwise."

The following is Mr. Churchill's graphic description of how the Trade Boards' Act would be enforced :—

"For the enforcement of this Act, and for the prevention and collusion, I rely upon the factory inspectors, who will report anything that has come to their notice on their rounds and who will make themselves a channel for complaints. I rely still more upon the special *peripatetic inspectors and investigators* who will be appointed under the Act by the Board of Trade, who will have to conduct prosecutions under the Act, and who will devote all their time to the purposes of the Act. These officers will incidentally clothe the Trade Boards with real authority, once the rate has been enforced, in that they will be responsible to the Trade Board, and not to some powerful Department of Government external to the Trade Board itself. I rely further upon the support of the members of the Trade Boards themselves, who will act as watch-dogs and propagandists. I rely upon the driving power of publicity and of public opinion. But most of all I put my faith in the practical effect of a powerful band of employers, perhaps a majority, who, whether from high motives or self-interest, or from a combination of the two—they are not necessarily incompatible ideas—will form a vigilant and instructed police, knowing every turn and twist of the trade, and who will labour constantly to protect themselves from being undercut by the illegal competition of unscrupulous rivals."

Determination of Wages :—"The Board has necessarily in mind on the one side the requirements of the workers and on the other the economic position of the trade. The workers' representatives naturally emphasize the one aspect and the employers the other, but the appointed members and the Board as a whole

* *The Legal Minimum*, by J. Hallsworth.

must account for both. They must consider what the trade in general can afford to pay and yet continue to prosper and to give full employment to the workers. They must also consider the rate at which the worker can pay his way and live a decent, civilized life. Mere subsistence is not enough. It is a cardinal point of economic justice that a well-organized Society will enable a man to earn the means of living as a healthy, developed, civilized being by honest and useful service to the Community."*

Prof L. J. Hobhouse goes on to say that "if we grant that it is the duty of the Boards to aim at a decent minimum, we have still some very difficult points of principle and of detail to settle. First and foremost, do we mean the needs of the individual worker or of a family, and if the latter, how large a family? It has been generally thought that a man's wages should suffice for a family on the ground that *there ought to be no economic compulsion for* the mother to eke out deficiencies in the father's payment by going out to work. It has also been thought that a woman is not ordinarily under a similar obligation to maintain a family so that her 'human needs' would be met by a wage sufficient to maintain herself as an independent individual." In order to equalize the payment made both for men and women, it is proposed that some allowance must be made for the maintenance and care of children. Certain common essentials for children, such as education, medical assistance must also be taken into account. This naturally necessitates that a minimum wage shall be based "not on personal but on family requirements". Prof. Hobhouse concludes that "for adult men the minimum is reasonably fixed at a figure which would meet the 'human needs' of a family of five and that for women it should be determined by the value of their services relatively to that of men." As for the allegation that the Trade Board differentiates men against women by *fixing minimum rates for piece work*, based upon the work contributed by male workers and also by fixing minimum time-rates, unfavourable for women, it is claimed by Prof. Hobhouse that a "Board would not willingly fix a wage which would either (*a*) diminish the opportunity of women to obtain employment, or (*b*) enable them to undercut men, or (*c*) fail to provide for them if living alone."

Mr. Seebohm Rowntree worked out "two sets of figures based on the pre-war prices", one for a subsistence wage and another for a "human needs" wage. The latter was considered to be an ideal to be reached by the unskilled workers "not in the near future". Professor Hobhouse came to the conclusion, after going into the question of advances made in the wages for the workers under the Trade Boards that "the subsistence rate is passed, but the higher rate not attained, except for some classes of skilled workers". The Boards have in general proceeded with moderation but the more serious forms of underpayment have been suppressed so far as inspection has been adequately enforced.

Two Minimums versus Single Minimum.—By the amended Act of 1918, Trade Boards had the power to fix not only minimum piece rates and minimum time rates but also piece rates for different kinds of more efficient work done by more skilled artisans. During the trade boom, that followed the armistice, many Trade Boards *succeeded to fix these two minimum* rates, the one to ensure at least the minimum time rate, which has only enabled workers to rise above the subsistence level and the other to raise them nearer to the "human needs" minimum. Both employers and employees were on the whole satisfied with these two minimums so long as the boom continued. But so soon as the depression had set in, complaints were heard against the inequitable incidence of the second and more serious minimum and the Cave Committee was appointed to enquire into this and other questions. The Committee was of the opinion that it was improper to expect the Appointed Members of Government to decide what wages should be paid to different kinds of skilled workers, producing different commodities of varying excellence.* Moreover, since the decisions and awards of the Trade Boards regarding these minimums were binding upon the employers and employees concerned, the Committee came to the conclusion that the Trade Boards should *not be expected to decide upon such highly* complicated and disputable questions. On the other hand, the workers' representatives† and some of the employers claimed that such of those minimum rates as were fixed by the Trade Boards were arrived at by the mutual co-operation of both the employers and employees and that so long as the Appointed Members were not expected to intervene on behalf of either party in a partisan manner, there was practically no harm in leaving such powers with the Trade Boards. Moreover, if such

* *Essays upon Liberalism.*

* *Trade Boards System.*

† Resolution of the 44th Labour Party Conference.

rates, as were fixed, were abolished, the workers whose interests were beneficially affected would be adversely affected and those others whose position ought to be raised from that of subsistence level would be prevented from progressing in future.

It has been found by the various investigators that after the establishment of the Trade Boards, the conditions of the workers in the sweated industries have been very much improved. The wages earned by workers have risen, the conditions of employment have changed for the better and the waste of time once caused to a worker in a factory when he was awaiting orders has been eliminated by requiring the employers to pay for such waste of time. Just because higher wages had to be paid to their workers, many of the inefficient employers, having been unable to reorganize the technique of their concerns, have given place to more efficient employers. And for the same reason, most of the capable employers who were till then sluggish, awakened themselves to the new situation, reorganized their businesses and set about improving the quality and quantity of work done by their workers. Some employers have found it more profitable to extend their operations within their factories and to discontinue their former practice of giving out work for as many as home workers as formerly. Because of all these various salutary changes in the industrial organization, it has become possible for the various trades which have been brought under the Trade Boards not only to continue to employ nearly as many workers as formerly at very much higher wages but also to take on new and well trained employees.* It is true that there are many instances where large dismissals followed the establishment of a Trade Board in a trade but such changes are bound to come upon any trade, when it is being reorganized either by the introduction of more efficient machinery or by a change of management or by rehabilitating the whole concerns. It is indeed very highly praiseworthy that in spite of the hard test to which the traders have been put, they should be able to raise the wages paid to about half the home workers in the tailoring trade and to enable about one fourth of the workers in that trade to earn more than the minimum, although many of them were above the age of 45.

Some of the opponents of the Trade Boards are fond of saying that the establishment of minimum piece rates and minimum time-rates will raise the prices of the commodities produced and thus either shift the burden of higher wages on to the shoulders of the consumers or lose the market in competition with similar goods produced in other countries where sweated conditions are allowed to exist. But they do not realize that first of all, the wage-bill of a concern which deals in tailoring and similar trades brought within the purview of the Trade Boards may be an unimportant affair when compared to the cost of other factors of production and hence, a small rise in it may not have any important effect upon the prices of such commodities. Secondly, they forget the fact that it is quite possible for most of the employers to so reorganize their concerns as to make good the additional wages paid to their workers. Thirdly, it must not be forgotten that better paid and better managed workers work better and produce more per hour than the sweated workers and therefore, make it possible for their employers to continue to make profits, in addition to paying them better wages. The only thing that can be said definitely to result from the operations of the Trade Boards is a greater necessity for the employers to set their houses in order, to organize their concerns more systematically and to train their workers better and to extract more efficient and skilled work out of their workers. Surely no one can claim to say that it is a hardship to the employers and so they must be allowed to enjoy their easy life, at the cost of underpayment and the resulting under-nourishment, ill-health, and inefficiency of thousands of workers.

In order to enlist the good-will and cooperation of the Government in the scheme for the promotion of a great Pan-African Exhibition in 1932, a deputation interviewed recently the Prince Minister at Union Buildings, Durban. It included Mr. Karl Gundelfinger (President of the Associated Chambers of Commerce), and Mr. A Eaton (Mayor of Durban). Having outlined the main principles of the exhibition and explained its objects, the members of the deputation invited General Hertzog to open the conference at Bloemfontein, convened for October 22 next, in order to discuss the project with representatives of all public bodies interested The Prime Minister, in reply, expressed his personal sympathy with the scheme, but told the deputation that he could not give them an undertaking on behalf of the Government without consulting his colleagues in the Cabinet. He invited the deputation to submit a memorandum on the scheme, which he would discuss with his Ministers.

* *Minimum Rates in the Tailoring Trade Board*, by R. H. Tawney.

Cattle Breeding in India.

By Lieut.-Colonel J. Matson, O.B.E.

In any movement towards increasing the net efficiency of Indian agriculture, the preponderating importance of cattle is plain. It is *commonly stated that the number of cattle in* the country is greatly in excess of its needs and that the excess number is largely responsible for the inadequate nourishment of all. It is thought by many that if the number of cattle *born and now reared could be kept* down to the number effectively used, that number would then be sufficient for requirements and, being better fed, would in turn permit of a still smaller number sufficing. Certainly, the present low efficiency of the cattle as workers could be substantially raised if fewer had to be fed, but it is a mistake to suppose that the immense numbers of practically useless cattle (not meaning uselessness due to age) that exist are useless solely through remediable dietary causes. The nutritional factor is important, but the genetic factor is inextricably bound up with it.

It follows that, if the country needs and now only uses, say, 140 million cattle, yet has 210 million, a reduction to 140 million would bring about a grave shortage. The 140 million that are used are the fit portion of the total. If by a miracle the 70 million unfit could be removed in a night and their food distributed over the 140 million fit, in the next generation the earlier proportion of hereditarily unfit would recur and the total number would then be too few. In short, the existing number must be maintained for a time to furnish a field within the boundaries of which the elimination of the hereditarily unfit character can be carried out.

Malnutrition.

Further, among the 140 million classed as fit are many which are only partially so, through heritable factors. Although malnutrition accounts wholly for the low efficiency of some cattle, the number in which malnutrition has sway through hereditary factors is larger. The tendency is all the time for these to maintain a high rate of increase for where the cow gives so little milk that it is not worth while trying to take a portion of it for human use, the calf receives all and, if a female, is then better nourished than would be the progeny of a physiologically more efficient mother. (The female calf of a cow of the draught breeds whose mother gives an appreciable quantity of milk is invariably starved and the casualty rate is high, the male calf is comparatively well suckled.)

Again among the breeds which now produce fairly high yielding cows, as well as valuable draught animals, *e.g.*, the Hariana, the best milkers are likely to possess the inherited characters which we call " constitution ". Such cows are likely to be exported to city milk vendors' yards and their calves do not return. They cannot therefore transmit the good quality. Cows of inferior character are retained and breed unchecked. There are areas in which very fine cattle are reared, in identical conditions of diet, etc., with others which are notably inferior, all being of the same families. Of 100 oxen reared, probably fifty are active, powerful and staunch in draught and keep up their strength and condition on the average feeding standard obtaining. Twenty may be equally large and strong but bad workers, ten will be distressed by hard work in the sun and unable to do an average task. Twenty will not keep *condition when worked unless much more* highly fed than the others, *i.e.*, their digestive efficiency is lower and they are uneconomic. All the defects of the second fifty may and usually will be hereditary.

Cattle Breeding.

Setting aside buffaloes, draught is substantially the most important consideration in studying cattle breeding at the present time. Is there any breeding plan, in the minds of those who aim at raising the level of agricultural efficiency, which embodies a scientific study of heritable characters connoting high or low efficiency in draught, such a study as will ensure the recognition of pure factors and furnish knowledge of their linkage and recurrence, etc., and then of breeding to segregate and recombine them according to their desirability? Following that, is there any intention to judge the plan by testing out the progeny of sires and dams before allowing them to transmit their characters throughout the country? I do not know of such a plan of operation anywhere in India as yet and I have made it my business to keep acquainted with what is being done for the past 25 years.

In regard to trying out of draught qualities or of studying the characters on which they depend, it is said that breeders of European or more particularly British—breeds have not found it necessary in the past when oxen were

in common use in agriculture. They have not. In early life, learning a type of agriculture which depended on ox draught and transport, I found the cattle breeding plan was in no wise affected by considerations of draught. But the primary end of breeding was beef; among the oxen trained to draught a wastage of 50 per cent was of no moment,—the animal was discarded from draught and replaced. Its value was not lowered thereby.

In India an ox has no value except as a draught animal. The inefficient draught ox is a burden on the country, for it will not, usually, be slaughtered and must continue to consume food; may even in fact be tended by a charitable society with the object of prolonging its life. Even in breeding cattle for milk I have followed the plan of sending bulls to draught after they had been mated to a few cows and until their progeny proved their worth.

Producers of Milk.

Turning to a consideration of cattle as producers of milk as well as draught oxen, the problem is more intricate, in Indian breeds, than is commonly realized, students do not fail to notice that over large areas, two sets of breeding females are maintained, one to give milk (buffaloes), one to produce oxen. They suggest that by combining both functions in one set, the other could be eliminated. They recognize here that the better food supply for the remaining bovine population would not by itself bring the desired result and that breeding for inheritance will be necessary. (Some clearer recognition of the precedence necessary to breeding seems desirable in that connection.) They imply that the two qualities *can* be combined in one strain and, so far as one can judge, they appear to think it feasible by adopting the line breeding and inbreeding methods of historically famous breeders, who developed or improved farm stock in Europe, if not by simple selection of parents conforming most closely to an imagined general type. I do not think it will be done in that way.

The Bakewells, Booths and Bateses proceeded by inbreeding a type until the characters making up that type, carried by the chromosomes, were in such preponderance that rarely could any other feature manifest itself, but they aimed usually at exclusive perpetuation of characters consonant with one object and began with strains showing considerable approximation to the ideal. The case is extraordinarily complex when two objects are aimed at and when the initial stock are so impure and carry so many characters, which are definitely antagonistic to the functional efficiency it is desired to develop, as they are and do here. India, in fact, provides an example of how want of appreciation of *all* the characters, carried by a majority of the sires used, may slightly develop one quality while another tends to be impaired substantially, for, if ever there was a potentially dual purpose (meaning milk and draught breed) it was the Hariana of the nineties , and I do not think any one would say that the proportion of milking cows among the females is now anything like what it was then. Even with the single purpose Shorthorns, there is the sterility that was unwittingly developed and carried on in the Duchess family to remember.

Combination of Qualities.

It is not at all my wish to suggest that combination of milk and draught qualities in a strain is impossible, but it is to suggest that the problem is difficult and unlikely to be solved, except by methodical approach and by drawing on the knowledge accumulated in modern research in genetics. So far as fairly careful observations during about 25 years guide me, Indian cattle conform to the laws laid down in the text books but in the more complicated forms. The relative slow maturity makes the study difficult for want of time, but with time and education the recognition of what are pure characters and what are fusions of two becomes possible. I do not find that any of their characters behave as simple dominants, but they hybridize and in all breeds that I know, but one, there seems to be a complicated multiple inheritance with intermittent linkage.

Different Indian breeds display marked variation in inheritance. The pure herd of Sahiwal cattle which I built up at Ferozepore in the Punjab is tolerably well known now. I found the original pure strains of that breed, which were rare even in 1910, the only cattle in all the so-called dairy breeds which would reproduce milking capacity more or less as do European cattle, and in 14 years I was not able wholly to eliminate the strains of impurity derived from crossing, in the ancestry, with other Punjab breeds. In the purer strains of Sahiwal the son of X quality, mated to X, produces X 3 times in four. In the Sindhi, which in outward general appearance is a comparable breed, it is, in my experience, more like 1 in four. The Hariana is as popular a draught breed, as exists and has been noted for producing a number of relatively high yielding cows also. In some of their physical characters

they breed true fairly well in their milking capacity not at all, in a simple form. The simplest text book example that resembles their behaviour is the blue Andalusian fowl, taking blue as milk yield. But actually they exhibit a complex form of that hybridization. The subject was illuminated for me by the experience gained in crossing European cattle with these different breeds, particularly in the recognition of pure characters.

Crossing European with pure Sahiwal gives, after the first cross, when hybrid vigour is no longer in play, quite different results from crossing with the Hariana. Crossing on different types of the Sindhi (there is great variation in the breed, in factors other than colour) gives variations comparable to the differences between Sahiwal and Hariana. The influence of different European dairy breeds varies between different Indian breeds in further crossing. The difference between Ayrshire Hariana and Friesian Hariana, hardly distinguishable in the first cross, is large when the crosses are mated among themselves.

Lastly, on the subject of combining milk and draught one must never forget that in breeding for milk (as well as for beef) the plan of the rest of the world latterly has been to carry on those characters which assist the 'effective use of the largest possible quantity of food'. That will not serve for Indian draught cattle: they possess characters which enable them to make the 'most efficient use of the smallest quantity' of food and these need to be preserved. The European ox extracting 60 per cent from 30 lbs. of dry matter is inferior 'in India' to the Indian ox which can only digest 20 lb. dry matter but extracts 75 per cent.

Summing up one may say.

(*i*) The cheapest way to improve feeding of cattle is to reduce their numbers.

(*ii*) No sufficient progress can be made in reducing numbers unless inheritance is first controlled to provide that the smaller number shall be of the type required.

(*iii*) No such control can be exercised without a preliminary detailed study of the heritable characters and their behaviour in reproduction.

(*iv*) Of the useless cattle that exist, a majority are useless through heritable factors.

(*v*) Of the cattle that are used, a substantial proportion are seriously below average in efficiency through heritable factors.

(*vi*) The best Indian cattle possess heritable qualities of extraordinary physical efficiency. There is no reason why a much larger proportion of the cattle born and reared should not carry them.

(*vii*) The case is far more urgent in India than elsewhere in the world, because cattle useless for draught or milk are valueless and cannot be destroyed.

Why We Should be Interested in Research.

By Cyril T. Young, F.R.G.S.,

Superintendent of Development, Canadian National Railways.

It is of great importance to Canada that there be further development of a public sentiment in favour of research. The size of the pay cheque we draw, or our return from any investment in stocks or bonds is influenced by research work, on which someone laboured long hours in finding the solution of the problem. It is a pity that articles on research are not written in a way that those of us lacking a higher education would still find them interesting and less academic. Occasionally they do appear. Some writers seem to feel that the making of their articles complex commands the admiration of those who move in the same circles. Yet research is not a thing apart from, but rather must be made popular with, the masses.

Our Dominion and Provincial Governments, some of whom heretofore have lacked sufficient research vision, are now leading the way and the general public have an added incentive to read up in order to get interested in this new Canadian movement and back it up loyally. Research assuredly will increase the size of our future pay cheques and our dividend cheques. Interesting ourselves in it will reduce our losses in stocks and bonds. Canada must be alert and on guard and safeguard herself against world competition from countries who well know the value of research.

GERMANS NOT CHEMICAL GENIUSES.

Hugh Farrell, an American, stated in, "What Price Progress,"* that "the notion that Germany excels in chemistry because of the superior aptitude of the German mind is silly—that the Germans out-distanced the world

* This book can be purchased for \$1 at The Chemical Foundations, Inc., 85, Beaver Street, New York, N. Y.

because their industrialists had sense enough to give their scientists a free hand and unlimited financial support. The Germans are not chemical geniuses except in the sense that a genius is one who takes infinite pains. As a matter of fact, the Germans are rarely discoverers. They are chiefly technologists. Most of the pure research and the fundamental principles upon which the Germans work came originally from England, where the scientists lead the world." He further rightly states that, " if we as investors and labouring men do not catch this research viewpoint, then the business in which our money is invested may already be on the skids. The chemist and inventor is a man who is making two dollars grow where one dollar grew before."

The country which finds or adopts new processes and new methods of manufacture and production at the farm, mine or factory, is the country which will win out in this Twentieth Century race of progress. The industry or the transportation company which fails to keep up in the race for lower costs, falls by the wayside. *It is the search for and adoption of cheaper* methods of turning out the product and the elimination of waste of materials and men's time, and not severe cuts in wages, which make for successful industry and a prosperous nation.

SUBJECTS ALL ARE INTERESTED IN.

You and I, for instance, as railway employees are interested in the prevention of rust on wheat (research) as it affects the pay cheque of every transportation man in Western as well as Eastern Canada. We are interested in the *prevention of the spruce-bud-worm (research)* which is affecting the supply of raw material for the newspapers we all read daily. We are interested in the finding of a process (research) to economically use 3 per cent of nickel ore in making rustless iron and steel, which we use every day, for Canada, at Sudbury, produces 90 per cent of the nickel of the world. This includes steel rails in the not far distant future when further applied research lowers the price of nickel, yet at the same time making it a still more profitable industry. We are interested in increasing the yield of gasoline from the petroleum we get from our oil wells (research) because the " cracking " process has doubled oil extraction, otherwise we could not run all the motor cars and trucks existing to-day.

RESEARCH DOUBLED GASOLINE EXTRACTIONS.

Heretofore our refineries were only getting 25 per cent of gasoline, 15 per cent kerosene, 40 per cent gas oil, 12 per cent paraffin and lubricating oils and 4 per cent coke, but applied research has doubled the gasoline extraction by getting another 25 per cent. Research must go further, for we are now only getting 7 per cent of the known explosive and driving punch out of gasoline and wasting the other 93 per cent. Research is also the future solution of moving Alberta coal products after liquefaction and one appreciates this after looking into the French and German methods where a million barrels a year are already being produced and 40 gallons of gasoline to the long ton obtained.

We are able to telephone long distances because of searching for (research) and finding the vacuum tube which, as in radio, relays and carries the human voice across a continent and across the ocean; and similarly with telegraphy where the finding of a new *method (applied* research) makes it possible for a number of messages to go over the one telegraph line at the same time and known as the carrier current. Research resulting in constructive thought and invention made huge and powerful railway locomotives possible, cutting the fuel bills and *increasing operating efficiency. The railways* on this continent saved \$30,000,000 in 1926 through using applied fuel research and invention in cutting their coal bills. The National that year saved \$1,500,000. In fact everything, from the successful treatment of disease, in which insulin is an example, all the way through a thousand and one processes allied with invention were secured to us by constant searching for (research) new methods and appliances.

We are now standing at the daybreak of a new century of science, invention, new processes and the use of substitutes. Substitutes have, in many instances, put what were formerly sound businesses, out of business completely. To-day, no bond, no investment is secure in the absence of the assurance given by a knowledge that science is on guard in that industry. Research is the price of survival in modern industry. Looking backward to our accomplishments with pride is one thing and looking at the accomplishments of others, or of other nations, with envy is another; but before we can look backward with pride we must look ahead with vision.

CANADA SPENDING VERY LITTLE.

In Canada we are only expending 5c. per head of population on research as compared to \$1.00 per head in the United States. The three greatest companies there that have done more for the advancement of applied science, than possibly all of the rest of the American

industries put together are General Electric, American Telephone and Telegraph and Eastman Kodak Company.

In 1913 the Government of Great Britain only expended $20,000 on research and last year $15,000,000. The wisdom, therefore, of the Dominion Government setting aside $3,000,000 recently for research purposes and new laboratories, and also of the Ontario Government voting dollar for dollar with the "manufacturers" which may make each of their contributions to an institute along the lines of the Mellon Institute in the United States approach the sum of $2,000,000; and also of the actions of other provincial governments throughout the Dominion is so evident from a forward looking viewpoint as to make it statesmanship of a high order of merit.

Canada to-day is in the proud position of exporting $250 of manufactured goods per head of population yearly as against $150 in Great Britain and $100 in the United States. Canadians are not lazy and our manufacturers are well up-to-the-minute in the matter of equipping their plants for production records and discarding obsolete machinery. We must bring back to them from other countries the latest processes, ideas and inventions.

Research is vital to any nation like Canada endeavouring to find markets for manufactured products in competition with countries overseas who have lower standards of living conditions, pay lower wages and do more cheap kraft work at home. What we must realize is that Canada must be built up basically level. Economic laws have a nasty knack of upsetting ill-advised policies relative to increasing population. Research must go hand in hand with agriculture, manufacturing and the processing of our raw materials if we are going to meet the complex needs of this complex age.

Finally, if Canada is going to retain the coveted place she now holds in the ranks of progress, if she is going to develop her resources to provide all the year round jobs for newcomers, if she is going to expand her market for electrical energy (that white coal which never goes on strike), if we are going to maintain our securities as safe investments, if we are going to hold the prosperous times we are now enjoying in Canada, then we must all be alert, have a mass sentiment in favour of research and the managers of big businesses must, from the watch towers of industry, anticipate changes occurring in these days of change, substitute and invention.

The University and the Agricultural Department.

By Dr. Leslie C. Coleman, Ph.D.,

Director of Agriculture in Mysore.

One of the most important subjects raised by the Royal Commission on Agriculture in their Report, is that which deals with the position of the Universities in regard to Agricultural Research. It may be said that practically no action is being taken in this connection in Mysore at present. This is not to indicate that there is no intercourse between the research staff of the Agricultural Department and the Science Departments of the University. As a matter of fact, almost every year for the past twenty years, students have come from Science Departments of the Central College to work as voluntary assistants in our laboratories with the avowed object of obtaining higher training. Among these may be mentioned two who have since become professors in the University, Dr. M. A. Sampathkumaran and Dr. A. Subba Rao.

This intercourse has been of a rather casual, and at the same time of a quite unofficial, character and the question as to whether a definite scheme of co-operation could be developed is, I think, worthy of serious consideration. I have already discussed this in a preliminary manner with Dr. Metcalfe and with the heads of scientific sections of this Department and have found a general agreement that a closer co-operation between the University and the Agricultural Department in research work, should lead to valuable results.

The subject may be considered under three heads: (*a*) team work by members of the staff of this Department and the Science staff of the University on problems where such combined effort seems to be desirable, (*b*) research work on scientific problems connected with agriculture by members of the Science staff of the University, and (*c*) research work by graduate students of the University on similar problems.

In regard to (*a*) I believe there are a number of problems upon which team work might lead to fruitful results. Thus, there are many soil problems where the help of the physicist would be highly advantageous and as a matter of fact, at least one Department of Agriculture in India

at present, has a soil physicist on its scientific staff. While we have an excellent chemistry section, it seems quite probable that in connection with some problems more rapid results would be obtained by an association of the chemical staff of the University in the work. Quite possibly similar team work in connection with problems in Entomology, Plant Pathology and Botany might be advantageous, while it seems also likely that an association of the economics staff of the University with the staff of the Agricultural Department in the investigation of problems connected with Agricultural Economics, might lead to valuable results. That such an association might benefit the University itself by bringing it more closely into touch with problems of vital importance to the economic life of the State, seems certain.

I am doubtful, however, if it would be possible or advisable to lay down rules to govern such co-operative research work. Possibly, the formation of a Research Committee on which the staff of the University and the Agricultural Department would be represented, might serve a useful purpose in this connection.

In regard to (*b*) I am given to understand that the staffs of the Science Departments of the University and more especially the junior members are being encouraged to take up more or less independent research work. From my own recent experience as a research professor in Canada and from conversation with Dr. Metcalfe, I am led to believe that there is at times difficulty in the selection of suitable problems and that the problems chosen have at times very little reference to the needs of the country. I fully appreciate the value of work in pure science which has no immediate relation to practical problems and I would not for a moment suggest that any restriction should be placed on the choice of subjects for research work in the Science Departments of the University, but I do feel strongly that where the scientific problems connected with agricultural improvement are so many and scientific workers are so few as they are in India, the attention of scientific workers in the University should be drawn to these problems. I would suggest, therefore, that a list of problems should be prepared by the scientific staff of the Agricultural Department for consideration by the Science Departments of the University in connection with the choice of research problems.

In regard to (*c*), while I am aware that the University does not at present provide courses leading to higher degrees, I understand that some students do commence their graduate studies in the University and they thereby are enabled to shorten considerably the time required for study in Indian Universities which grant higher degrees. I believe also that the University provides graduate scholarships for such men.

The facilities available in the laboratories of the Mysore Agricultural Department for research work in science as applied to agriculture, are, I consider, excellent. It has occurred to me, therefore, that the University might be able to send graduate students to the Department for training in research providing scholarships for the purpose. These young men could be placed at work on some of the many problems upon which at present no work can be done owing to insufficiency of staff. I believe that the scientific reputation of the Department is sufficiently high to ensure the acceptance of such work as part fulfilment of the requirements for higher degrees in Universities such as Bombay and Calcutta. Such an arrangement would, I believe, react favourably on the work of the Science Departments of the University, while it would at the same time bring the Agricultural Department into close touch with some of the most promising young men trained in the University. The problems we have to face in connection with agricultural development in Mysore demand the very best material in the way of research workers that our University can produce and an arrangement such as I suggest should considerably widen our field of choice for men to fill scientific posts in the Department.

I have already suggested that it would be necessary to form a Research Committee to regulate and control the proposed research activities. Such a committee would consider the research problems from the standpoint of their relative importance and from that of the facilities available either in the laboratories of the University or in those of the Departments for their investigation. They could also make recommendations as to the award of scholarships to graduate students. It might, I think, properly consist of the Principal, Central College, the Director of Agriculture, the Professors in charge of Science Departments in the University and the heads of scientific sections in the Agricultural Department. Provision could be made also for sub-committees to deal with the subjects relating to the particular sciences involved.

Good-will is the margin of service delivered to customers beyond what they have asked for.

Greatness does not depend on size.

Aid to Industries in India.

By "Scrutator".

The comprehensive narrative prepared by Mr. A. G. Clow, I.C.S., and submitted to the Simon Commission has been published by the Government of India surveying the Government policy and action in relation to industry under the reformed constitution. The aim according to the author has been to set out the policies adopted with the considerations that led to their adoption and to give in some detail the developments which followed in practice. In his historical retrospective Mr. Clow points out that the contraction of commerce with the West served to bring home in a striking manner the extent of India's economic dependence on Europe. So far as materials were concerned her list of deficiencies, as the Industrial Commission pointed out, was surprising. Electrical plant and equipment, the essential accessories of the textile and mining trades, all kinds of machine tools, boilers and steam, oil and gas engines, were all imported. There was not a machine to make nails or screws and even agricultural implements were mainly imported. Nor was dependence confined to materials. Constant supply of Western experts was essential and a number of opportunities were lost when they were not forthcoming again.

Awakening of Indian Capital.

In respect of capital India depended largely on outside assistance and it was not until after the end of the war when opportunities were disappearing and risks were multiplying that Indian capital appeared to be losing its customary shyness. With the progress of the war Government received an entirely new and powerful stimulus from her own needs, for the war compelled her to enter the markets on an unprecedented scale and her necessity was such that she could no longer afford to wait until private enterprise rose to the occasion. The development and inception of industries with State assistance or under State management became essential if India was to meet the demands arising out of the war.

Mr. Clow deals next with the stage when the Industrial Commission conducted an enquiry and made recommendations. He pointed out that the work of the Indian Munitions Board started during the war time on the suggestion of the Commander-in-Chief had a direct influence on the development of indigenous industries, naturally colouring the views of the Commission and influencing their recommendations.

Department of Industries Created.

The important step taken on its report was the conversion of the Munitions Board into the Central Department of Industries. The bulk of Indian opinion saw in the Commission's scheme a definite move towards centralization. At the same time the Central Government maintained its efforts to carry out as far as was now possible the scheme of the Industrial Commission.

Evidence of its determination was seen in the creation of the Central Department of Industries in February, 1921. The Department took over the work previously done by the Board of Industries and Munitions and it thus assumed responsibility for most of the subjects which the Industrial Commission desired to see allocated to it, but technical and industrial education could not be included in the list, nor could the new department assume responsibility for the development of industries save in exceptional circumstances, for these subjects were now in care of Ministers so that it is not too much to say that what the Commission regarded as the most important functions requiring the formation of a new department were outside the purview of that Department when it was formed, and with the abandonment of the proposal for industrial and scientific services, the influence which the Department could exercise on industries became further diminished.

It is true that the Department had to deal with a number of subjects of importance, but most of these were not of a character which made a new department essential. There were indeed only two subjects of first class importance which involved the adoption of a new policy and an advance along new lines in the manner indicated by the Commission. These were Labour and the purchase of Government stores but the Inchcape Committee after enquiry suggested economy in several directions, some of which were accepted and acted upon.

Technical Education.

Proceeding, Mr. Clow says the period under review has been characterized in most provinces by the control of technical and industrial education by departments dealing with education. An important branch of technical education for Indians is the system of state technical scholarships for study abroad. The introduction of the Reforms was attended by the

provincialization of the existing scheme. The Government of India were precluded by the charges in constitution from granting scholarships except in a very limited range of subjects and provincial governments were free to adopt any scheme that appeared suitable.

Generally they have continued to grant scholarships on the lines of the system formerly in force. The most common period for scholarships is three years, a year's further extension being given in a number of cases. They generally amount to about £240 annually with free passages both ways. Occasionally a premium has also been paid for securing admission to a factory.

DETAILS OF PROGRESS.

Mr. Clow gives details of progress in technical education in engineering colleges and specialized institutions. He classifies in the latter category the establishment of a School of Mines at Dhanbad in 1926. He also mentions the industrial schools and institutes established in various provinces since the introduction of the Reforms, but concludes that stipends are required in some cases to attract pupils from educated classes. Here the difficulty is not primarily economic for the parents who will pay to secure for their boys a literary education which gives poor prospects of a career frequently expect stipends to be given at technical schools whose pupils have excellent prospects.

In the United Provinces and Bihar and Orissa in particular, it is said to be difficult to attract the best type of student and complaints are frequent that technical education is regarded by the parents as suitable only for those who are not good enough for anything else, but if social prejudices against manual labour have nowhere entirely disappeared, the advance of public opinion has combined with economic pressure on the middle classes to introduce a steady improvement in recent years.

KEEN COMPETITION IN CITIES.

In the biggest cities there is generally keen competition to enter institutions which are efficiently equipped to meet the demands of industry and students from some provinces, particularly Bengal, are prepared if necessary to go far afield and to incur considerable expense in obtaining a training at an institution which finds it difficult to attract local students.

The chapter on the development of cottage industries is striking and shows to what extent the Industries Department had played its part in assisting the cottage industrialist. Mr. Clow affirms that with the exception of China no country can show such activity in respect of cottage industries as India.

He observes: "Some industries, it must be admitted, are unable to face competition from the factories. This is notoriously the case with cotton spinning by hand. The political movements of 1921-23 were accompanied by the preaching of a revival of the spinning wheel as a solvent of India's troubles and under this stimulus some spasmodic activity was shown. The Industries Departments in one or two cases endeavoured to popularize an improved charka but the hand-spinning movement was doomed to failure because in their efforts to secure better utilization of the spare time of the poor, the leaders selected an industry in which the cottage worker fought the mills on such entirely uneven terms as to make his remuneration phenomenal.

HAND-LOOM WEAVING.

With hand-loom weaving, by far the most important of India's cottage industries, the position is entirely different. Whatever may be its history in the future, the prevailing impression that its best days are long past is entirely erroneous. It can be established beyond dispute that in the period under review more cloth was produced by hand-loom weaving in India than in any corresponding period for which we have statistical information, and while acknowledgment must be made of the stimulus given to industry by the political movement in favour of handwoven cloth, it appears to be the case that at present at any rate the hand-loom weaver can more than hold his own against the mills in simple economic competition."

Among the activities which have led to this result are the mention of the names of several weaving institutes and exhibitions started or organized under Government auspices in the various provinces.

RESEARCH ACTIVITIES.

The author of the review then deals exhaustively with research and investigations that are being carried out, particularly at Dehra Dun with paper pulp, at Madras with tannery, in Bengal with the match industry, etc.

Several pages are devoted to the policy and action in respect of store purchases for Government requirements. The author traces the policy till the present stage of partial introduction of the rupee tender system as urged by the Central legislature. He says whereas under the old rules the purchase of imported stores in India had been the exception, the new rules provided that with certain exceptions all stores

should be purchased in India and that tenders should be for the supply in India and for payment in rupees.

Preamble indicated that in purchasing stores preference would be given first to articles produced in India from Indian materials; secondly, to articles wholly or partially manufactured in India from imported materials, and thirdly, to articles held in stock in India. But the Stores Purchase Committee's report resulted not merely in the alteration in the stores policy but also in the setting up of a new agency for carrying that out. The Stores Department was formed, which includes on the purchasing side branches at headquarters dealing respectively with textiles, leather, engineering, hardware and miscellaneous articles, and on the inspection side it supervises the Metallurgical Inspector at Jamshedpur, Alipore Test House and the Inspecting Offices at Calcutta, Cawnpore, Bombay, Karachi and Madras.

Conception not Fulfilled.

After recording the quantity of purchases made since the creation of the Department, Mr. Clow says the figures represent only a fraction of the purchases made by the Government of India and the conception of the Stores Department has not been fulfilled in practice, for the Department has been left to make its own way. It is only in respect of textiles that the Department now makes nearly all the purchases of Government stores in India, but it is noteworthy that local Governments generally have given the Department a large measure of support. The most important purchases made independently of the Department have been those of the Central Government Departments notably the Railway and the Army Departments, which are main purchasing departments.

The fact that the purchases of these Departments have not hitherto been made as contemplated by the Stores Purchase Committee has led to an enhancement of cost in proportion to the work done of maintaining the Stores Department and to public criticisms of the policy of Government on this and on other accounts. This is not a place for a discussion of the difficult questions involved, but it may be remarked that the scheme of the Stores Purchase Committee possibly paid too little attention to the difficulty inevitable in setting up a new Department which was intended in part to supplant active and extensive purchasing agencies and yet was not to be directly responsible to the Departments maintaining those agencies, and the expansion of the new Department, left as it was to depend mainly on the efficiency of its service for custom, is a testimony to the value of the work it has done. The report then specifies the pioneer factories started by the Government of India and the provincial Governments as well as financial assistance rendered to private enterprise. It proceeds to deal with the control of the fiscal policy and explains the policy of discriminating protection now at work.

Fiscal Policy.

Mr. Clow observes in this connection: "It had been recognized from the start as inevitable that the Reforms would involve a change in the fiscal policy of India in the direction desired by the politically minded classes of people and the Fiscal Commission were unanimous in the advocation of a change of policy. Finally, the force of events had led Government to a partial abandonment of their former policy before the Fiscal Commission was appointed. The necessity of raising revenue had led to large increases in Customs duties so that some industries were already enjoying a fair measure of protection. These increases had not been made uniformly nor had they been made solely with regard to consideration of revenue. To some extent, therefore, the new policy involved the substitution of a tariff scientifically designed to assist industries for one which was arbitrary and irregular in its effects on the industries of India."

Mr. Clow gives a catalogue of the various measures passed in the Central Legislature at the instance of the Government, beginning with the Steel Protection Bill. The review deals exhaustively with Labour representation in the legislatures and Labour questions discussed there. He says the ferment of war had awakened Labour in the cities from its accustomed passivity and unreadiness to organize. All the conditions favourable for the demand for higher wages existed and the result was an epidemic of industrial strife which reached a climax in the winter of 1921. The Reforms also provided for some representation of Labour in the legislatures. Ten sessions of the International Labour Conference were held between 1919 and 1927 and the submission of their conclusions to the Central Legislature has been instrumental in stimulating public interest in Labour questions and at times in initiating measures which might not otherwise have been adopted.

Then follow the Bills passed in legislative bodies regarding the condition of Labour including the Factories Act, Mines Act, Workmen's Compensation Act and the Trade Union Bill, and reference is made to the Trade Disputes Bill before the Assembly.

Timber-Floating in Sweden.

By Gunno Kinnman,

Royal Forester, Lecturer to the College of Forestry.

Though timber-floating is not confined to Sweden, Norway and Finland, it is in those countries that this mode of transport has been carried well-nigh to perfection. And it may be said that Sweden, in particular, has been specially favoured by nature. The floating-ways of Sweden are in fact one of the principal factors in the creation and rapid success of the Swedish timber and paper industries.

Considerable supplies of timber exist in other countries than those mentioned, but they are, in many cases, inaccessible owing to difficulties of transport. As timber is very heavy in proportion to its value, and as timber-cutting is extended from year to year over vast areas, timber, unlike commodities such as ores, can scarcely be transported cheaply *en masse* by mechanical means.

Some Figures.

A few figures will serve to indicate the extent and importance of the Swedish system of timber-floating. It will be useful to set out from a comparison with the railway system :—

According to official statistics, the aggregate length of the Swedish floating-ways (exclusive of those in private hands) amounts to 31,325 kilometres. The total length of the Swedish railways is 16,271 kilometres, or only half.

As most of the railways run through cultivated and populated districts, there are not many railway lines that are serviceable for the conveyance of timber. But in those districts where both modes of transport are available, it is evident that the railway, even in purely technical respects, is, generally speaking, inferior to the floating-way. The timber can be driven to the waterway down an incline, and, pending an opportunity for further conveyance, can be unloaded at almost any point, not merely at stations. Moreover the carrying capacity of the floating-way is very high in proportion to that of the railway.

It is further obvious that the conveyance of timber by water is considerably cheaper than transport by rail. For it requires no plant corresponding to rolling stock, and the driving power is obtained substantially free of cost.

The costs of floating average 2.45 kronor per cubic metre. The average length of the floating-ways may be estimated at 120 to 160 kilometres. If the timber were conveyed by rail it would cost that amount for a distance of merely 40 kilometres. This shows how very cheap it is to transport timber by water. On the other hand, we must not overlook the fact that the existing network of railways in many places usefully supplements the waterways. The timber can sometimes be conveyed more rapidly by rail, besides which losses by sinking etc., are avoided.

For various reasons, it is not possible to give exact figures for the initial cost of the floating-ways, but it can be roughly put at 5,000 kronor per kilometre. The initial cost of the Swedish railways may be estimated at 65,000 to 70,000 kronor per kilometre. This indicates what immense capital would have been required for a corresponding network of " forest railways ".

It may be presumed that a large part of the Swedish forests would have been practically valueless down to the present day, had it not been for the facilities which Sweden possesses for the floating of timber.

The amount of timber annually floated down the public waterways is estimated at 116 million logs which is equivalent to about 12 million cubic metres.* If this amount of timber is reckoned in proportion to the area of productive forest land, it will be found that the amount of floatable timber is 0.8 cubic metres per hectare.†

In default of complete statistics, it is scarcely possible to make an exact comparison between the amount of timber actually cut and the amount floated down the waterways. A rough idea of the proportion may, however, be obtained from the following example :—The average amount of timber supplied to the wood-consuming industries in the Counties of Norrland and Dalarna during the period 1911—1920 was 10 million cubic metres per annum, or 0.65 cubic metres per hectare. The amount of timber transported by water within those countries in the last few years is estimated at 10½ million cubic metres.

The above example indicates that by far the greater part of the timber is conveyed by water.

* Here and in the sequel, in solid measure.
† 1 hectare=approximately 2½ statute acre

NATURAL FACILITIES FOR TIMBER-FLOATING.

A mere glance at the map of Sweden's waterways for timber-floating will show how well they are distributed over the forest regions. We observe the network of waterways reaching up to almost every forest.

A similar result will be obtained if the entire superficial area of the forest region is reckoned in relation to the aggregate length of the floating-ways. We shall then find that to each kilometre of waterway there corresponds a forest area of 816 hectares on either side. This signifies that the distance from the waterway to the further end of the forest zone is barely more than 4 kilometres.

A detailed examination of the individual waterways will likewise show how Sweden has been favoured by nature. Generally speaking, the waterways have a steady incline. This is a matter of great importance as the timber then floats down almost of itself. True that in many places the descent is so precipitous that the timber is liable to be damaged. Moreover the frequent interposition of lakes necessitates expensive arrangements for the transport of the timber by machinery. But on the whole the level of the waterways may be said to be very satisfactory.

We should note in particular the favourable climatic conditions in Sweden in regard to the flow of water. The high water-level required for timber-floating is facilitated by the accumulation of snow during the winter half-year. The snow gives rise to the "spring flood", which can, if necessary, be regulated by dams. The discharge of snow from the mountainous regions in particular is very large in proportion to the snowfall.

Largely owing to the general trend of the watercourses from north-west to south-east, the breaking-up of the ice and the melting of the snow proceeds in a manner favourable for the timber-floating. The coastal regions are the first to be freed from ice. Thus the logs which have accumulated in the lower reaches of the rivers quickly float down to the industrial plants which, at this season of the year, are always short of raw timber. Then, according as the snow melts, the volume of water swells. In those rivers which have their origin in the mountains, the high water-level lasts till far into the summer. In many cases the melted snow which runs down from the mountains can be distinguished as a separate flood. Thus the floating can be carried on during a great part of the year and the level of water is continuously rising. These are truly ideal conditions for timber-floating.

LEGISLATION.

The Swedish system of timber-floating would never have attained to its present development, had it not been supported by good legislation.

It was moreover very fortunate that most of the waterways were dredged at a time when the waterfalls had not yet been equipped for power purposes. In fact, one of the principal reasons of the poor development of timber-floating in the southern and central parts of the country is that all available water power was at an early date requisitioned for the iron industry there. Hence the use of waterways for timber-floating could not be secured at a reasonable cost.

Though the floating-ways are now, legally speaking, quite distinct from other public waterways, the right of timber-floating originated in the right of public water traffic in general. The legal recognition of the rights of timber-floating was facilitated by the legal term "king's channel"* derived from the ancient provincial laws, and originally intended to protect the fishing rights of proprietors of land along the upper reaches of the waterway. After a time timber-owners claimed a free passage for their timber in virtue of the regulations regarding the "king's channel". These claims were eventually recognized with the result that those waterways which were not in private hands were placed under State control.

These early regulations, however, gave undue prominence to riparian rights and thus tended to retard progress. Sometimes charters for timber-floating were granted to individual persons or companies subject to the payment of certain fees.

If, as nearly happened, rules of the nature above indicated had been laid down in the first law for the regulation of timber-floating, this would have been most unfortunate. The law, however, was actually based on rules for corporate timber-floating drawn up by timber-floating associations and tested with satisfactory results in some large rivers. These associations may be regarded as the earliest co-operative societies on any large scale in the world.

The first law, which was dated 1880, contained only general regulations for timber-floating. It was left to the County Authorities to draw up special regulations for each individual waterway. This was, on the whole, a satisfactory arrangement, as scope was thus allowed for the development of timber-floating in accordance with its peculiar character.

* A channel, or part of it, reserved for public utility purposes.

The issue of the new Water Law some ten years ago involved changes in the regulations affecting timber-floating. A change of considerable importance was that all suits relating to the equipment of water were placed under the jurisdiction of special tribunals termed "water courts". But all suits relating to the floating are still dealt with by the County Authorities.

The privileged position accorded by the law to the floating-ways may be illustrated by some examples. The floating-ways as a rule have a servitude on the land adjoining the floating-way. Thus they do not have to purchase the land, as has to be done, for instance, on the laying out of a new railway line. The holders of riparian and fishing rights, as well as owners of bridges and water-power works are obliged, against compensation, to put up with any unavoidable damage that may be caused by the equipment of the floating-way: no expropriation is required. The compensation for damages entailed by the construction of the necessary works is fixed once and for all. When water-power works are erected, compensation for damages has to be paid at full value *plus* half as much again: in the case of floating-ways compensation is made for the actual value only. Furthermore the floating-ways have very extensive rights in regard to free water. All these privileges are based on the principle that timber-floating is regarded as a public interest which deserves to be favoured in every way possible.

On the other hand, provision is made for a fair apportionment of the volume of water between the floating-ways and the water-power works. There are moreover express regulations for the protection of fisheries.

In addition to the public floating-ways under State control, there are a considerable number of private waterways for timber-floating. As a rule they are in the hands of a single timber-owner who also holds most of the riparian rights.

Equipment of Floating-ways.

When a floating-way is to be established or reconstructed on a large scale, the first thing to be done is to make a survey. Plans for dredging and other works are drafted, damages and compensation estimated. An amortization plan is drawn up, showing how those who have advanced the capital are to be repaid out of the charges on the timber-floating. The recommendations of the surveyor are transmitted to the 'water court'. If the decision of the court is favourable, the work can be started at once.

With a view to obtaining the longest possible floating season, it is of paramount importance that the volume of water represented by the spring flood should be uniformly distributed. To that end, dams are erected at lakes, swamps and other natural reservoirs of water. These works at the same time provide suitable sites for the discharge of the timber which comes down from the forests to be floated.

In most waterways the natural channel is sinuous and shallow. Where this is the case, the channel will have to be dredged and the banks levelled. The channel should, if possible, be sufficiently wide to permit logs of normal length to swing round. Where the banks are weak and exposed to severe stresses, the required depth of channel is obtained by penning the water within regulating dams, called 'ledkistor', made of logs, built in the form of a box and filled with stones.

At places where the natural channel cannot be dredged, *e.g.*, at precipitous slopes and sharp curves, it is usual to construct works on the principle of the canal aqueduct. These works consist of a combined dam and chute. The water penned up by the dam carries the timber into troughs or chutes arranged on either side of the waterway.

The timber is guided and kept together by 'booms' floating on the water. They consist of long logs coupled together by iron braces and fastened at suitable spots to attachments. At the mouth of the waterways the timber of the various owners is sorted out with the aid of an extensive system of 'booms'.

Furthermore, provision has to be made for the erection of workers' huts and boat-houses, for the construction of roads or paths, and for the instalment of telephones. Finally, somewhat elaborate arrangements may be required for the protection of banks, water works, fisheries and communications.

The Floated Timber.

Timber-floating in public waterways, as already indicated, is as a rule organized on the corporate system. That is to say, the timber of the various owners is floated together, the ownership being determined by distinct marks stamped into the logs. Each of the owners must state the amount of timber he has put on the water. When the total costs for the year have been computed, they are defrayed by the owners of the timber *pro rata parte*, reckoned according to cubic mass or the number of logs. In the latter case certain reductions are allowed; for example, five logs of paper-pulp wood are supposed to be equivalent to one log of timber

for sawing. Reductions are moreover made for timber of inferior value.

The floating-ways are divided into districts or zones mapped out according to the natural boundaries. The costs devolving on a district are defrayed proportionately out of charges on all timber which is driven down to the district, or is floated down to it from a district above it.

The capital required for the construction and maintenance of works is advanced by certain timber-owners. It is then gradually repaid out of charges on the floated timber at fixed rates.

For good floating, certain qualities are required in the timber. The difficulties of timber-floating greatly increase according as the logs exceed the normal size. On the other hand, small timber causes more bother than thick timber with respect to its cubic mass. Sharp bends in the timber impede tipping: knotty and badly barked logs are likewise sources of trouble.

It is particularly essential that the timber should float well. In the growing tree it is only the heartwood that is lighter than water . the log is thus kept afloat by its heartwood. This part of the log moreover absorbs water very slowly. It has been estimated that the proportion of the heartwood to the total volume must be at least 35% for satisfactory floating.

Until recently Swedish timber has, as a rule, been cut in the primeval forests: it thus consists of elder trees and floats satisfactorily. Latterly, however, new technical processes have increased the value of young timber. Timber is, therefore, being cut on an increasing scale in younger forests.

The endeavours which are now being made to accelerate the annual growth in older forests will also encourage the cutting of comparatively young timber. As young timber is relatively poor in heartwood, the percentage of sinking will tend to increase. How to remedy this evil will be one of the greatest problems of scientific forestry.

The floating capacity of newly cut timber can be improved by proper treatment. The logs should be barked and piled in such wise that drying is accelerated by sun and wind. If these precautions are taken, the sapwood (the outer part of the wood) will at first throw off the water. The sapwood, however, unlike the heartwood, cannot resist the penetration of the water for any length of time.

Conveyance by water tends, generally speaking, to improve the quality of Swedish timber. True that the timber is liable to be somewhat injured by stones or by the marks of implements, and that the wood is occasionally discoloured. These defects, however, are merely superficial and are of no account in sawn timber. What is more important is that certain components in the wood are dissolved by soaking in water. This is, on the whole, good for the timber. The reduction of the content of phosphorus, for instance, is advantageous for the production of charcoal. It has moreover been demonstrated that floated logs are less liable to shrink and crack than timber which has not been put on the water. Here we light upon one of the principal factors that have contributed to the good reputation of Swedish timber.

Organization of Timber-floating.

Timber-owners who make use of a public floating-way combine into a 'floating association'. Its affairs are managed by a council. The floating is superintended by a 'floating officer' assisted by district officers as well as by a staff of engineers and officials.

The timber-floating, especially in the smaller waterways, is carried on at a pressure during the season when the snow is melting. The preparations for the work of this season must be made in the winter time: caretakers are stationed at the dams, materials and works inspected, ice hindrances removed. The floating association moreover superintends the storage of the timber. It must be arranged in such a way that the timber drives well, and so that it can be floated on conveniently and without risk of damage to bridges, water-works, etc.

It is often necessary to pile the timber on land, in which case it has to be rolled out into the water. In smaller streams the floating is conducted intermittently: as soon as the reservoirs are exhausted, the dams must be closed pending a further accumulation of water. In the larger waterways, on the other hand, the floating is carried on more uniformly. In rivers and streams the driving power is, of course, supplied by the running water, whence the costs of transport are very low. But where lakes intervene, the timber must first be collected within booms or gathered into 'bundles', and then be hauled by warping or towing. The costs will then be considerably augmented.

Special arrangements, which must be planned with great care, are required when timber destined to saw mills or pulp mills has to be conveyed from the mouth of one river to another, or even from the north to the south of Sweden. These long-distance transports have assumed great importance for equalizing the

supply of raw timber in different parts of the country.

As the timber reaches the sorting booms, it is sorted out among the various owners, bundled together, and towed up to saw mills and pulp mills. When the floating for the year has been terminated, compensation must be made for damages caused by the floating. These are assessed by a valuation committee.

In conclusion, we must cast a glance ahead. What future may we expect for this important mode of conveyance?

We may reckon with improvements in the equipment of the floating-ways, in mechanical devices and in methods of work.

The steadily increasing amount of floating timber taxes the capacity of the floating ways and renders it more difficult to get all the timber floated down in the space of one season. New floating-ways are being established in remote regions and the timber from these parts tends to retard the entire floating. It will, therefore, be necessary to introduce improvements at weak spots.

The rising tendency of wages will also have to be met by improved equipment and more scientific methods of transport.

Certain difficulties are entailed by the competition of the power works for the use of the water. For example, the owners of power plants demand that the supply of water be regulated the whole year round, or—at certain dams intended for regulating the water supply for longer periods,—even from one year to another. Compliance with these demands would tend to diminish the supply of water during the floating season. Another source of trouble is that the dams erected by the power works have created basins of still water. These may indeed be useful for storing timber, but, unless mechanical feeding devices are provided, they stop the passage of the logs. Further, at certain times the amount of water passing the dams by floating has to be regulated with the greatest caution. This drawback is perhaps easily remedied by means of timber chutes. But it is often difficult to feed the logs into these chutes, besides which the dam with which they are connected may cause a deficiency of water further down the stream. Moreover, the periodical discharges from the power plants, which give rise to the formation of ice, may seriously damage the works of the floating-way. These various drawbacks will render it necessary to improve the methods of construction and to perfect the equipment.

Attention has been drawn above to the great saving entailed by the conveyance of timber by water. Cheap timber is evidently essential for the Swedish wood-consuming industries if they are to compete successfully on the world market. But, in view of the intensive methods of forestry which are now being adopted, it is obvious that the price of timber can never fall as low as in the days when the primeval forests of northern Sweden were first exploited.

It has been indicated above that the Swedish floating-ways are still susceptible of improvement. We must, however, congratulate ourselves on the fact that most of them were established at a time when the conditions were favourable. We may therefore look ahead with assurance. Even if substitutes should compete successfully with sawn timber, there will always be uses for which wood is simply indispensable. No country is better fitted than Sweden to supply timber than can hold its own in the face of competition.

Even if fibres of jute, bamboo, esparto, etc., should replace wood fibres for various purposes, wood pulp will nevertheless be indispensable either in combination with other stuffs, or as the principal material. The high standard of the Swedish wood pulp industry, in conjunction with the transport facilities afforded by the Swedish waterways, induces us to hope that, so long as paper is required for books and newspapers, and so long as artificial silk is in demand for the textile industry, timber will continue to float down the rivers of Sweden.

The angrier one gets, the sweeter he becomes, declared Dr. Oliver Kamon of Park-Davies and Company's Laboratory. Anger increases the secretion of the suprarenal gland, the blood pressure is raised and the sugar content of the blood is increased. It was explained that sugar was a fuel for the blood and it needed an increased quantity during any excitement. Contrary to current idea about hormone he found two hormones on one gland, it has been thought that there could not be more than one.

A recent Resolution of the Government of Bombay says that the power of registering libraries and of notifying their recognition in the Bombay Government Gazette has been transferred from the Director of Public Instruction to the Collector of Bombay so far as the libraries in Bombay City are concerned and to District Magistrate so far as the libraries in the mofussil are concerned.

Do not think you are the only brainy man in the business, the rest of the staff doesn't.

Attracting Settlers to Malnad.

By A. V. Ramanathan, B.A.,

Deputy Commissioner, Kolar District.*

The question of increasing the area under cultivation in the Malnad and of improving the population thereby has a two-fold aspect :—

(1) Grant of facilities to landless local residents to acquire land and bring it under cultivation, whether belonging to the depressed class or other classes.

(2) Grant of concessions to outside families migrating to Malnad villages and settling down there.

The Malnad Improvement Committee of 1925 dealt with the latter class only and recommended the grant of lands to settlers free of assessment for ten years and observed that if the settlers needed any help for cultivation, their financial circumstances may be considered and suitable help also given.

My study of the conditions in the interior villages of the Heggaddevankote and Hunsur Taluks convinces me that the initial step to bring more lands under cultivation in the interior villages and also to repopulate the depopulated villages is to induce landless people in the neighbourhood to take up lands and cultivate them and also build houses in groups near their fields in the respective villages so as to better protect their crops from the inroads of elephants, wild bears, etc. The difficulty is that the initial cost of clearance for cultivation including the purchase of a pair of bullocks and the maintenance of the families and the bullocks until the first harvest is gathered, is too high for these poor people.

Attempts were made to interest the village officials and the local leaders in securing darkhasts from these landless people and in getting them to clear the lands and sow the seeds. The Amildars were also personally instructed to grant, free of upset price, lands not exceeding 10 acres in any one case, provided there is no reserved timber or sandal trees on the land. Promises were also held out that, in respect of every applicant who is landless and who has to clear the ground of the scrub jungle before cultivating it, I would, under Rule 46 of the Rules under the Land Revenue Code, excuse the assessment on the land for one year after he has gathered the first harvest. To succeed in this campaign, it is necessary that liberal loans should be given to these people on their personal security as Takavi at not more than 100 rupees each for purchase of ploughs, bullocks, seed, etc. This concession is necessary in respect of landless people whether of depressed class or not. I have impressed it on the Yejamans of Adikarnataka and Kurubar Communities that they will get the first preference and I have impressed it on the Amildars that they must see their way to grant lands to every one of these communities who applies for it. But the all-important problem is to reclaim lands which were once under cultivation and are now scrubbed jungle, to increase the open glades and decrease cover for wild animals outside forest area, increase the food production in these backward tracks thereby improving the stamina of the people and enable them to resist disease. I beg therefore that a special allotment of at least Rs. 25,000 may be placed at my disposal for the current year for the grant of such loans so that about 250 families might be helped to grow their own food and bring under cultivation about 2,000 acres of land in a year. I have also considered the possibility of organizing co-operative farming societies as indicated in paragraph 11 of the Government Order of the 11th October 1928, but I am afraid that, until individual grants have been liberally given a year or two and unlettered folk are convinced that Government are in earnest and that there are no impediments of acquisition of land, such a scheme will not succeed in these two taluks.

As regards outside settlers, the difficulty is that there is no organization which will attract the settlers and bring them into the Malnad. Mere notification in the *Gazette* of the valuable areas does not serve any useful purpose. I have for example published in the *Gazette* a list of surrendered date groves thrown open for cultivation and available for grant in the Maidan taluks, but I have so far received no enquiries. Three Bechirakh villages of the Heggaddevankote Taluk were notified in the *Gazette* as available for grant to settlers on favourable terms. There has been no response even to this notification. Likely settlers have to be drawn from classes which never see the *Gazette*, or, for the matter of that, which do not know the existence of the *Mysore Gazette*. In past times entire villages used to be assigned to

* Paper submitted to the Mysore Economic Conference, 15th March 1929.

enterprising individuals who agreed to collect families and settle down in the village bringing virgin soils under the plough. These leaders sometimes became Khayamguttadars and sometimes Patels or Shanbhogues with special rent-free lands for themselves. It is necessary to evolve an agency suited to modern conditions for attracting settlers. For example (*a*) any one who secures 25 families from maidan tracts and induces them to settle down in the Hunsur and the Heggaddevankote Taluks and repeople the Bechirakh villages, may be given a bonus of say Rs. 10 per family per annum for the first year and also an extent of 25 acres of land in that village free of assessment for ten years, or (*b*) a special Sheikdar might be appointed, whose business it will be to visit over-populated villages in the Maidan taluks, inform the landless people there, of the facilities available in the Malnad and induce families to migrate to Malnad, the Panchayet of each village contributing at least one family, being given a bonus of Rs. 5 per family in the first year and Re. 1 for each of the succeeding years up to five years during which the family lives in the Malnad, or (*c*) whenever a number of families from a particular village, say from Nagamangala Taluk, settles down in a Bechirakh village in the Heggaddevankote or Hunsur Taluk, the new village may be named after the parent village according to their desire. As regards individual settlers, I think that they may be given 10 acres of dry land or 4 acres of wet land where it is available and also an initial grant of at least Rs. 100 per family for purchase of plough, bullocks, etc. They should also be given building materials free of cost from the neighbouring District or State Forest. In all such new villages, a good well should be sunk and timber given free for the Village Chavadi and Temple. Wherever a cart-track from the high road does not already exist, one should be made from the Malnad Improvement Fund. As regards assessment, this does not weigh heavy with the raiyat after the first two or three years. I think, therefore, that it will be quite sufficient if the lands are made free of assessment for the first three years. In respect of depressed classes, however, the concessional rate of assessment recently sanctioned in Govt. Order No. 3309-20—L. R. 211-26-3, dated the 7th December 1926 will apply. Wherever concession for a further period in respect of assessment is found necessary, the Deputy Commissioner will exercise his discretion under Rule 46 of the Land Revenue Code and remit the assessment for a further period.

I request once again that the grant of Rs. 25,000 above applied for may kindly be sanctioned immediately and further, as regulated by the Committee in paragraph 40 of their report, authority be given to the Amildars of Hunsur and Hegaddevankote to grant free license to take the required quantity of reserved wood from the District Forests and unreserved wood from State Forests for the building of houses to those who take up the lands and build new houses in depopulated villages or form new hamlets near their fields.

The summary of the recommendations are :—

(1) For local landless people :—

(*a*) Lands not exceeding 10 acres to be given free of upset price provided there is no reserved timber or sandal trees.

(*b*) Where the land has to be cleared of the scrub jungle before cultivating, assessment to be remitted for one year after the first harvest is gathered.

(*c*) Takavi loans at not more than Rs. 100 each to be given on personal security for purchase of ploughs, bullocks, seed, etc.

(*d*) A special allotment of Rs. 25,000 to be made for the grant of such loans to 250 people in a year.

(2) For outside settlers :—

(*a*) Anyone who secures 25 families from Maidan tracts as settlers in the Bechirakh villages of the Malnad taluks to be given a bonus of say Rs. 10 per family per annum for the first year and 25 acres of land free of assessment for ten years.

Or

A special Sheikdar to be appointed to visit over-populated villages, advise the landless people and induce them to migrate, the Panchayet contributing being given a bonus of Rs. 5 per family in the first year and Re. 1 for each of the succeeding years up to five years during which the family lives in the Malnad.

Or

Whenever a number of families of a particular village migrate and form a new village, it may be named after the parent village.

(*b*) Individual settlers may be given 10 acres of dry and 4 acres of wet land and an initial grant of Rs. 100 per family for purchase of ploughs, bullocks, etc.

(*c*) Building materials to be given free of cost from the neighbouring District or State Forest.

(*d*) In such villages a good well should be sunk and timber given free for the Village Chavadi and Temple.

(*e*) A road should be formed if one does not already exist.

(*f*) Lands to be made free of assessment for the first three years.

(*g*) The concessional rates of assessment ordered in Government Order No. 3309-20—L. R. 211-26-3, dated the 7th December 1926 to apply in the case of depressed classes, the Deputy Commissioner being invested with discretion to extend the concession in cases of necessity.

(3) For both classes, local and outsiders :—

(*a*) Authority to be given to the Amildars to grant free licenses to take the required quantity of reserved wood from the District Forest and unreserved wood from State Forests for building houses.

Union is strength; but where the elements composing it are both weak their combination may be weak also.

Economics in the West.

Bank Liabilities and Bank Assets.

London, 28th February 1929.—The following passages are taken from the speech delivered at the Ordinary General Meeting of Shareholders of the Midland Bank, Limited by the Rt. Hon'ble R. McKenna on January 22, 1929.

It was customary for my predecessor in his annual addresses to the shareholders of the Bank, to begin with a discussion of some financial topic of general interest and to conclude with an account of the progress of our own business. Hitherto I have followed his example but to-day I am varying the procedure and propose to confine my observations to matters arising directly from a consideration of the Bank figures.

After referring to the increase in the Bank's paid-up capital and reserve fund Mr. McKenna said The item Current, Deposit and other Accounts stands at £394,591,227. The figure is the highest in the history of the Bank and exceeds that of a year ago by £20 millions. The balance sheets of all the other clearing banks are not yet available, but those so far published show that a substantial growth has taken place in the deposits of the banks as a whole. This expansion in the volume of money is in itself a satisfactory feature and would ordinarily be regarded as an accompaniment of expanding trade. In truth however, it cannot be said that the business of the country, generally speaking, has shown any great improvement during the past year over 1927, and there is consequently a seeming discordance between monetary and trade conditions which needs explanation. We might expect at first sight to find the answer to the problem in an upward movement of the price level, but, so far from rising, the price level has actually fallen during the year. Failing this explanation we should next look to a decline in the velocity of circulation which probably in fact gives us a partial solution. A full understanding of the problem, however, is only obtainable on an examination of bank figures not ordinarily published.

Money Expansion and Trade Stagnation.

To clear the ground I must remind you that deposits, as shown in a bank balance sheet, describe under a single head two kinds of liability of the bank to its customers. They include on the one hand money held on current account, which is immediately withdrawable by cheque and often distinguished by the name "demand deposits", and on the other hand money, conveniently described as "time deposits", which is lodged with the bank either for a definite period or on the condition that notice must be given of withdrawal. No doubt part of what is included in demand deposits is really not different in essence from a time deposit and *vice versa*, but the exceptions in each category are probably not large in relation to the whole and may be neglected without risk of serious error. The figures of current and deposit accounts may consequently be taken as a fairly accurate measure of true demand and true time deposits.

As might be supposed, the proportion of current accounts to total deposits is by no means constant. I have had our figures taken out for a series of ten years, showing the proportion for each year. Beginning with the boom year 1919 we find that the proportion was exceptionally high, 71.4 per cent. During 1920 the boom was rapidly passing away and the percentage fell to 66.2. By the spring of 1921 a definite trade depression had set in and in that year the current accounts dropped to 60.3 per cent. From that time onwards there has been a slow but constant decline, the successive percentages being 60.0 in 1922, 59.8 in 1923, 58.5 in 1924, 57.3 in 1925, 56.3 in 1926, 55.7 in 1927 and 55.3 in 1928.

The significance of the figures becomes apparent when we remember that demand deposits are essentially money in active use in business of all kinds, while time deposits have more of the character of money awaiting investment and money for which no trading use can be found at the moment. We should naturally expect the proportion of demand deposits to rise or fall according as trade is good or bad. How close the correspondence is we shall see better if we look at the fluctuations over short periods. It will be remembered that in 192. trade was comparatively good, and that a year ago, when I last addressed you, the outlook was distinctly encouraging. In the first part of 1928, however, the curve of current accounts showed a clear downward trend, and despite a substantial rise in the early summer, when trade was temporarily better, it sustained on balance a severe fall, and remained at a low level in the later months of the year. It seems evident, therefore, that close agreement exists between business conditions and the proportion

of current accounts to total deposits; and it is impossible to avoid associating the gradual transfer from current to deposit accounts, which our figures show to have been proceeding at varying rates ever since 1920, with the continued trade depression. The seeming discordance between monetary and trade conditions may, therefore, be attributed in part at least to the fact that although there has been an increase in the total volume of money, there has not been a corresponding increase in the amount actively engaged in trade.

It may be objected that I am drawing my conclusion from the returns of one bank only, and that the figures are not sufficiently representative for the purpose. The defect has not escaped me, but I think it fair to suppose that our figures are typical of those of the banks as a whole, and if this be so it would appear that they can be accepted as a useful index of trade activity and depression. In recognition of this fact we are considering whether we should make these statistics of current accounts available at intervals in the future, though the indication which they give of business conditions would be more certain and reliable if they were combined with similar figures of the other banks.

INFLUENCE OF BANKING POLICY.

The subject of banking offers many difficult and complex problems, one of which, arising out of the matters just discussed, is well worth examination. It may be put in this way: Is the distribution between demand and time deposits due in part or in whole to something done by the banks, or does it result from entirely extraneous influences unrelated to banking policy? I think it can be shown, speaking of the bank as a whole, that some causal relationship exists between the disposition of their resources among the various groups of earning assets and the division of their deposits between current and deposit accounts, and that consequently the proportion of demand deposits is not determined wholly independently of the action of the banks. Let us suppose that the banks, by reason of a surplus of bank cash, are able to expand deposits by new loans or by purchases of additional bills or securities. It is obvious that the deposit created by a bank loan which is to be used immediately in trade must almost of necessity fall into the category of money actively at work, and must therefore increase the proportion of demand deposits. On the other hand, a new deposit created by a bank purchase of securities probably comes under the heading of money awaiting investment, and thus tends to increase the proportion of time deposits. If the new deposit be created by a short term loan to the money market or by the purchase of bills, the immediate and ultimate consequences have to be distinguished. The first result is an addition to the volume of demand deposits, but some portion of the new deposit will inevitably come to be held by foreign banks, partly on current and partly on deposit account. The division of this new deposit between the two groups cannot be foreseen, but neither part of it will add to the volume of money actively at work in British trade.

In view of these facts it may perhaps be suggested, since trade is depressed, that the banks should arrange their earning assets in such a way as to promote the greatest possible increase in demand deposits, or actively circulating money. In considering this suggestion it must always be remembered that banks are not wholly independent agents in the distribution and employment of their resources. They are bound to consider the varying degrees of liquidity of their assets. Apart from cash and balances with other banks, their most liquid assets are money at call and short notice, Treasury bills and bank bills and if they work with a lower cash ratio a higher proportion of these must be maintained. It follows from this that a growth in the volume of deposits not arising from a growth in cash reserves is likely to be accompanied by a more than proportionate increase in short loans or bills or both, and for this reason will probably be accompanied by a less than proportionate expansion in the volume of money at work in trade. Thus we see that the cause of an increase in deposits exerts a strong influence on the nature of the deposits created and that the banks are not entirely free to pursue a policy designed to raise the proportion of actively circulating money.

The question then remains to be answered: How has the increase in bank deposits over the past year come about? As you know, the total volume of bank deposits is dependent on two factors; first, the quantity of bank cash, and secondly, the ratio of cash to deposits which the banks together maintain. This general ratio is determined by the policy of the several banks which, though working to ratios differing among themselves, ordinarily adhere to comparatively stable individual figures. It happens, however, that during the last two years our own Bank has reduced its cash ratio to a proportion more nearly approaching those maintained by the other banks. I need not

dwell upon the reasons for this modification of policy; my purpose in calling attention to it is simply to show that the increase in deposits is due to a variation in the aggregate cash ratio of the clearing banks, and not to an increase in bank cash which actually was slightly less during last year than in 1927. These two facts, coupled with the necessity of maintaining a prudent degree of liquidity, required a re-distribution of bank resources among the various groups of assets, and the direction of the re-distribution was such as to tend inevitably towards a decline in the proportion of demand deposits.

After dealing with other balance sheet items Mr. McKenna said: I should like to draw your attention to the relatively small amount of this country's banking resources which is employed in financing day-to-day business on the Stock Exchange. Taking the November 1928 averages we find that all the London clearing banks together, out of total earning assets of £1,637 millions, had only £148 millions lent at call or short notice. It is impossible to say how much of this amount consisted of loans for financing Stock Exchange business, but, as far as our own Bank is concerned, not more than half our short money is lent for this purpose. When we set these facts side by side with the enormous quantity of bank money lent in the New York stock market, we find a most striking comparison. According to figures published by the Federal Reserve Bank of New York, the loans to brokers and dealers in securities made by reporting member banks in New York City for their own account and for that of out-of-town banks amounted, on the average of the November weekly returns, to $2,850 millions, or four times the total money at call and short notice of all the London clearing banks, whether lent in the stock market or the money market or elsewhere. The British figures, though not strictly comparable with the American, are clearly indicative of the comparatively small amount of borrowing from banks which is involved in this part of the nation's business.

Analysis of Advances.

Mr. McKenna then passed on to an analysis of the Bank's advances and commented as follows: The total of advances does not furnish a precise measure of the accommodation given to trade and industry. It is necessary for this purpose to know how they are distributed among the various industrial, trading and other groups. Some critics of the joint stock banks have suggested that too large a proportion of advances is allocated to customers who borrow for the purpose of carrying stocks and shares, and that trade and industry are correspondingly deprived of their full measure of bank accommodation. It would require detailed information regarding the items which make up the total of bank advances in order to decide whether this criticism is justified or not, but the figures of our own Bank may be of some guidance, and I, therefore, propose to give you the proportions of our advances which were outstanding to the various groups of borrowers of June 30 last. The analysis takes too long to permit of my giving the figures for a later date, though it may safely be assumed that no marked change in distribution has occurred during the last six months.

The figures disclose the interesting fact that our largest borrower is the group of undertakings engaged in the textile industries. This group, which includes brokers, merchants, spinners and manufacturers, accounts for 12½ per cent, or close on one-eighth, of our total advances. Almost the whole of this amount is lent to the cotton and wool industries in roughly equal proportions, silk and other textiles accounting for only a very small part. As you are aware, the cotton and wool trades have been passing through a prolonged period of difficulty and depression. The cotton industry in particular has suffered from the loss of a considerable part of its export trade, but we think there are grounds for the hope that we shall see better conditions in the future.

The next largest group falls under the general heading of building and land. Loans in this section amount to no less than 11½ per cent of the total. In view of the marked activity in the building trade all over the country in recent years and of the fact that very heavy and prolonged expenditure is often involved, particularly in large scale development schemes, it is hardly surprising that the figure is high. It includes temporary advances for investment in houses and land and for the purchase or construction of houses for the buyers' own occupation, but the larger part of the money has been lend direct to builders, contractors, brickmakers and others. A loan for building purposes is almost invariably repaid on the fulfilment of the contract or sale of the building, while a temporary advance for investment in houses and land is usually granted pending the arrangement of a mortgage. As a result a high degree of liquidity is a characteristic of the group.

Equal to the last-named figure is that made up of loans to wholesale and retail traders, the percentage again being 11½. More than

two-fifths of this strikingly large total is lent to retailers with a single place of business. We have 31,000 loans of this particular character, the average amount being only £330. These figures are remarkable as showing the wide extension of credit given for the distribution of all kinds of goods to the ultimate consumer. Probably a large part of the accommodation extended by the Bank to wholesalers and retailers has the effect of enabling them to give regular credit to their customers, and if this be so we have in these advances an indirect form of consumers' credit which has recently been a subject of some discussion.

The next largest group includes the heavy industries, iron and steel and other metal manufacturers, engineers, machinists, shipbuilders and so on. These take 7¾ per cent of our loans. Conditions in the different branches vary widely; some sections show marked prosperity, while others are in a state of extreme depression. It is, therefore, re-assuring from all points of view to find that our loans to these industries are well distributed over the whole field.

Agriculture takes 6½ per cent of our advances. Some of the money is lent to assist in the purchase of farms, but the larger part is made up of temporary advances for ordinary farming operations. These show a clear seasonal movement, reaching their peak in the late summer and tending to decline towards the winter, but the figure for June 30 is probably fairly close to the average for the year. Our loans for financing current agricultural requirements number nearly 15,000, the average amount being less than £500.

Under the next heading, food, drink and tobacco, I have grouped together a number of trades, no one of which absorbs any large amount of credit, but which in the aggregate take 6 per cent of our advances. Then come a variety of undertakings, including importers as well as manufacturers, dealing with leather, rubber and chemicals. The total advances to this group amount to 4 per cent. A further proportion of 4 per cent consists of loans extended to a number of miscellaneous trades, including newspaper undertakings and paper manufacturers. Shipping and transport absorb 3¼ per cent of the total.

I have as yet made no mention of the coal trade which is undergoing protracted depression accompanied by grave suffering throughout the coal fields. It so happens that our advances to the mining group which includes, in addition to collieries and coal merchants, all kinds of mining and quarrying undertakings, are less than those to any of the others so far enumerated, and amount to only 2½ per cent of the total. This is the last of my groups of loans which are made directly and specifically to finance the production and distribution of commodities, but the list, by no means, exhausts the full amount of advances which, in fact, are used for purposes of trade and industry.

Our professional and private advances, together with loans on trust accounts, aggregate 6½ per cent. We know that the great majority of these loans are used in the borrower's business or profession, but it is obviously impossible to be certain that a part of them may not be applied to other purposes.

The next group comprises local authorities and gas, electricity, water and other public utility companies, which together take 3½ per cent. The greater part of the loans to local authorities consists of temporary advances in connection with public undertakings. Next, advances to entertainment companies, clubs, societies and associations, churches, hospitals and schools, amount altogether to 2½ per cent, and these constitute another group in which the use made of the loans is predominantly for trade purposes. A word of explanation is required at this point regarding a small group of items which are not advances, strictly speaking, but are included under that heading for book-keeping purposes. These are the debit balances on certain impersonal accounts, together amounting to 1¾ per cent.

We now come to a group, accounting for 8 per cent of the total, which comprises loans to insurance companies and brokers, finance houses, trust companies and foreign banks and miscellaneous finance loans. The last item is composed in the main of loans to directors of trading companies for re-lending to their own undertakings. Borrowing by finance houses and trust companies is generally for very short periods only. Loans to foreign banks are many times exceeded by deposits placed with us by those institutions and are largely for the purpose of financing international trade. Here I may interpose another interesting point. Only an insignificant proportion, in fact less than one-half per cent, of our total advances is extended to undertakings operating abroad. In other words, practically the whole are for home purposes of one kind or another.

The remaining 8¾ per cent of our advances may be described broadly as money lent for investment in stocks and shares. This description, however, is liable to be misunderstood unless some explanation is given. When stocks

and shares are deposited as security for a loan it is usually impossible for us to determine with certainty that the advance has not been secured for a speculative purpose. We discourage loans which are clearly for that object. On the other hand it would be difficult to refuse a temporary advance to a customer which enables him to take advantage of a favourable opportunity for investment by tiding over the period required for the realization of other securities. In some cases moreover, the capital requirements of private industrial companies are met by the issue of shares to directors or principal officials who seek the assistance of the bank to take them up. Such transactions are not speculative in any true sense of the word: they permit the spreading in point of time, of payments for investments and indirectly aid in the provision of fixed capital for a variety of industries.

It is, therefore, clear that if on a strict analysis we could add together all those loans, without exception, which represent part of the necessary equipment of production and trade, we should arrive at a very high proportion of the total. How high the proportion is it is impossible to say with exactitude, but I am sure we shall be on the safe side if we assert that nine-tenths of our advances to customers are of this character. Finally, it is of interest that on the date of this analysis our loans and advances were extended to more than 180,000 borrowers, the average amount outstanding being about £1,200.

In closing his address Mr. McKenna said: Ten years have passed since the conclusion of the most recent, and we devoutly hope the last, great war in the world's history. They have constituted a decade of grave difficulties involving problems of exceptional magnitude and complexity. Disappointments have been frequent: many setbacks have been suffered. But I do not think it will be denied that considerable progress has been made towards a more ordered and prosperous world. Perhaps the most solid contributions to this final result have been made during the past year. The steady advance towards the ultimate elimination of the risk of war and the efforts now being undertaken to reach a final settlement of the reparation problem are noteworthy movements in the field of international affairs. At home much has been achieved in improving the relations between employers and employed, and the need for industrial reorganization has become more widely recognized and accepted. It may be said with truth that the prospects of peace, both international and industrial, have brightened. Peace between nations and within nations is a primary condition of our welfare, and whatever the temporary state of trade, however slow we are in solving the financial and industrial problems which confront us, we still look forward with unshaken confidence to the time when the better relationships now established shall become the foundation of general and permanent well-being.

"Pussyfoot" Johnson.

By G. V. Rajaratnam.

The redoubtable prohibitionist "Pussyfoot" is again visiting the Indian shores on a propaganda tour. Perhaps he is the greatest terror in the world to millionaire brewers and distillers, for the man has an uncanny way in weaning "wets" into "drys". His life is one crowded bustle of "anti-bootlegging". In its cause he had faced death, mutilation and derision without flinching. It must be interesting to glean a few incidents out of his past life in the cause of prohibition.

After hammering his way through a university without a cent in his pockets and after being a newspaper man and a writer of divers tracts, he accepted a job in the State of Oklahoma for suppressing illicit traffic of liquor. He bought a rifle and started spilling liquor wherever he found without bothering about legal processes. He fought a "bootlegger" and emerged out of the fight with a crooked finger. One day a rough customer killed one of "Pussyfoot's" deputies. It came out in the trial that a bootlegger had offered Rs. 3,000 for the head of Pussyfoot. But the wrong man was killed. It was dangerous work breaking up gangs of desperate smugglers. Pussyfoot conducted his attacks mostly in the nights. During six tumultuous years he secured the conviction of 4,400 offenders. Eight of his deputies were killed in the performance of duty. Once in Chelsea he fought his way through an angry crowd with the butt end of a billiard cue. In 1912 fed up with Government work he cast his lot with the Anti-Saloon League and has preached for a dry America and now for a dry world. Once on landing in Bombay he had a wordy passage with a high British Official which is both humourous and interesting. The official asked "Why have you come to India? What are you going to say? Where are you going to say it?

Who sent you here? Who is paying your way? Pussyfoot wanted to tell him all he wanted to know and a lot more. After a long interview the official's hurting words were "I have tried my best to make it impossible for you to come to India, I am opposed to you and what you stand for, to all you are going to say and to all you are going to do. But go ahead and if you get into trouble, send word to me and I will help you out."

Mr. Johnson was dubbed "Pussyfoot" by Red Indians, because his nocturnal forays savoured of a cat jumping on a rat while he was employed by U. S. Government.

Industrial Notes from London.

The Ideal Home Exhibition.

London, February 1929.—The 1929 *Daily Mail* Ideal Home Exhibition was formally opened on February 26 by the Lord Mayor and Lady Mayoress, Sir Kynaston and Lady Studd. This is the twenty-first year since this exhibition was inaugurated and it is no exaggeration to say that each time it has been held, it has enhanced its popularity with the home-loving public who have thronged to it to see the latest devices for making home life more comfortable.

This time, as was to be expected on the occasion of the exhibition's anniversary, the event is larger and more attractive than ever, and between now and March 23 all the world and his wife will wend their way to Olympia. Foremost among the features most people will rank the gardens. To enter Olympia from a snow-clad world with a bitter east wind curling round one, and then to find a series of really delightful gardens, some with charming scenic effects, such as that with two minor cascades falling attractively from an unseen origin to an equally obscure destination, others showing what can be done in the way of adornment with the aid of paving, while everywhere there is a glorious profusion of flowers, hyacinths, daffodils, violets, etc., makes one think that spring has really come—until one leaves the hospitable doors of Olympia and re-enters the bleak world outside.

Another feature which will arouse much interest is the series of bedrooms through the ages, showing eight bedrooms ranging from the time of the cave woman, through Egyptian, Greek, Italian, French, Old Japanese, and Victorian periods, to the extremely modern bedroom of the ultra-fashionable young lady of to-day. An "Ideal Home" exhibition naturally suggests an exhibit of an ideal room, and six ideal rooms are on view. Designed by well-known people, the rooms have been erected, decorated, and furnished by Waring and Gillow, Ltd., whose charming work in the decorating of houses has made them famous all over the world and especially in the Near East. The rooms include a library designed by Lady Oxford and Asquith, a woman's study by Lady Londonderry, and a studio by Sir William Orpen.

The Empire Marketing Board has a display which will arouse considerable interest. This section is divided into two parts, the first pictorial and symbolical and the second practical and utilitarian. In the first there is a foreground showing an industrial scene in the home country, in the middle distance is the sea, on which ships of commerce ply, and, in the background, is a scene of the Empire overseas. The Indian section shows the Lloyd Barrage on the River Indus; next door is a reproduction of the new Sydney Bridge, the contract for which was given by Australia to Great Britain in competition with the whole world. Other parts of the Empire represented include Canada, New Zealand, South Africa and Cyprus. Reference must also be made to the Cunard Company's exhibit showing the accommodation provided on their Atlantic liners.

Another interesting new feature in the exhibition is the Model Dairy Farm, showing prize cows, sheep, pigs and poultry in their natural surroundings with the ducks swimming about on a miniature lake crossed by a delightful stone bridge. Each day practical demonstrations are given of making butter, cheese, jams and other country produce.

There are a few of the features of an exhibition that is full of delights of those whose minds are centred on the home. Furniture, kitchen equipment, electric fittings, these and everything else that goes to make the perfectly equipped home are to be found in abundance. It is an exhibition that should be seen, and doubtless will be, not once but several times.

International Congress on Commercial Education.

An International Congress on Commercial Education is to be held in Amsterdam, from the 2nd to the 5th September, 1929. This is being

organized by the Dutch National Association for Commercial Education, under the auspices of the International Association for Commercial Education. Business-men educational authorities and governments of about ten countries, including Great Britain, France, Germany, Denmark and China, have promised to send representatives. The task of organizing British representation was entrusted to a Committee appointed at a meeting held in London, on November 9th, 1928, at which over thirty members of prominent British organizations connected with commercial education took part. The undermentioned have expressed the hope that Great Britain will be adequately represented at the Congress: The Right Hon. Lord Eustace Percy, The Right Hon. the Lord Mayor of London, Sir John Kynaston Studd, The Right Hon. Lord Southwark and Sir George Sutton, Bt., Chairman of the Council of the Royal Society of Arts. Those interested in the matter are invited to apply for further information to the Hon. Secretary of the Committee for the Organization of British Representation, Mr. N. Skene Smith, 5, Onslow Gardens, Wallington, Surrey.

Silk Paper Predicted.

Nothing in recent years has come so much to the succour of the unemployed as this great, young and novel industry of artificial silk," Sir Robert Horne declared when he opened the exhibition at Olympia. "Work for at least 30,000 people has been provided by the industry in the last few years, and £135,000,000 has been invested in it in this country alone." There are still greater developments to come. An official stated that before long there will probably be artificial silk paper, which would be stronger than ordinary paper.

Direct Mail Advertising.

"Direct Mail Advertising is not necessarily Mail Order Advertising," said Mr. Cunliffe Bolling, at a meeting of the British Direct Mail Advertising Association at the Connaught Rooms recently. Mr. Bolling spoke of selling specialities by means of direct mail, and gave interesting facts and figures concerning his own experience in selling printing machinery, which he described as a very different form of retailing—something not for re-sale, but for a man, or firm's own use. He seems to have found Direct Mail particularly efficient in that it enabled him to put forward his sales arguments clearly and forcibly, and at some length, direct to the people whom, he knew, were definitely interested in printing machines; it enabled him, too, to present his story in colours and with good illustration. He used the trade journals—in fact he confined his Press advertising to these publications—and used them as supplementary to the direct canvass of folders, circulars and personal letters. One of the many advantages of Direct Mail is that one can eliminate waste circulation to a great extent and create a selected and exclusive list of prospective customers. Mr. Bolling used Direct Mail as a quicker and less costly means of introduction than the personal call of a salesman. He prepared the ground by means of the post, and followed up resulting inquiries by salesmen's calls. It is better, he said, to send a booklet costing six pence, once a month, than a book costing half-a-crown every three months. It is a question of keeping the proposition before the notice of the prospects and continually selling the story. Many different kinds of propaganda material were mentioned as being useful in creating interest—blotters, calendars, Christmas cards, post cards, and briefly worded personal letters. Use colour, said Mr. Bolling. It takes a little longer to print, and it costs a little more, but it pays every time. Mr. Bolling certainly gave much useful advice to his listeners, and proved beyond doubt that there are possibilities, even yet hardly realized, for the successful and profirable use of all sorts and conditions of printed matter, distributed through the agency of His Majesty's mail.

The Life-Blood of Trade.

"Sane, well-considered publicity I look upon as the life-blood of trade," said Sir Sydney Skinner, Chairman of John Barker & Co., when he spoke at a luncheon of the London Master Printers' Association at the Hotel Belgravia. "If publicity were more utilized in various directions," he continued, "the trade of this country would not have been through some of the sorry times it has experienced in recent years. There are larger issues involved than private business. I cannot conceive anyone running a Post Office without resorting to publicity, or any Government Department putting through useful legislation such as the C. O. D. without backing it with a great amount of publicity. I think the propaganda note is the right note to strike. Any business can be launched more quickly and successfully with the aid of newspaper and catalogue publicity. These methods are interdependent. The newspaper should be followed by the catalogue." Post Office profits should be based on returns, he said. If prices were reduced, they would have enormously increased trade. The penny

post should be restored and the sample post should be re-introduced, concluded Sir Sydney. Mr. J. R. Burt, chairman of the association, presided.

"SPECTATOR'S" HUNDREDTH BIRTHDAY.

Representatives of politics, law, literature, medicine, journalism and commerce were present at a dinner at Claridge's Hotel given by Major John Astor, in celebration of the centenary of the "Spectator". The Prime Minister was the principal guest. The front page of the menu was in the form of the "Spectator's" first number, and on the back was a reprint of a 1928 page of the "Spectator". Mr. Baldwin said that he was very ignorant in the matters on which he had been asked to speak. He had read in the first copy of the "Spectator" the immortal sentence: "The principal object of a newspaper is to convey intelligence, not to provide it." He had devoted part of his leisure during the past week-end in reading the life of a great man in America, called William Randolph Hearst, and somehow the impression left on his mind was that Mr. Hearst would not entirely agree with what he (Mr. Baldwin) read in the "Spectator". The "Spectator," he said, had had the remarkable good fortune to be conducted through all that time by only four men, and four very remarkable men. They left an individual stamp on the paper so that no one cou d fail to recognize it, whether it was printed on green paper or pink paper or any other coloured paper.

"BE YOUR OWN PRINTER" CRAZE.

Mr. Gordon Selfridge has very decided opinions as to the wisdom of business firms and others running their own printing departments. Speaking recently to the West and North-West London Master Printers, he said: "No business in the world exists which is large enough to run an up-to-date printing office without tremendous loss." He went on to say that he himself had recently bought a large business in London where he found a printing department at work. The first thing he did was to clear it out. It was impossible to run a business demanding such thought and skill, such knowledge of all up-to-date methods, save by men who thoroughly understood the craft of printing and devoted themselves entirely to it. Great business houses were anxious to utilize every possible piece of machinery for saving time, money and labour, but they would be well advised to let printing alone. Speaking of the printing craft, he said that at the age of twelve he and a friend printed and published a little paper, "The Will o' the Wisp," of which he was business manager. After a year's publication he and the editor saved enough money to visit Niagara Falls. He had still a keen interest in journalism, and if any of those present had a daily newspaper for sale at a low price he was prepared to consider it favourably. Probably it was this experience which led him to believe that he was to-day quite a good judge of printed matter. Printing in his judgment was the greatest thing that had happened in the progress of civilization. It made the whole world happier, better and wiser. Advertising was the greatest single force in the world to-day, and more money was spent upon it than upon any single commodity in the world.

Real Estate Exchange.

The members of the Japan Real Estate Association on September 21 last met in conference, in Tokyo, when the proposal to establish the real estate exchange was approved.

According to the revised plans, the new exchange will be known as the Japan Real Estate Transaction Company, Ltd., and be capitalized at Yen 10,000,000. The head office of the concern will be in Tokyo, with several branches in the more important cities. The capital will be divided into 200,000 shares of a face value of Yen 50. The concern will start business for the time being with a capital of Yen 2,500,000. The shares will be allocated to the promoters and other interested persons.

The chief purpose of the concern is to deal in land and other immoveables, and the concern will conduct other incidental business such as giving loans on real estate. The board of directors of the new company will consist of five directors.

The promoters of the new concern expect that the concern will give a net profit of Yen 170,840 for the first business period. The estimate of the income and expenditure is shown below: Income, Yen 45,000, charges for dealing on the exchange (it is estimated that some Yen 15,000,000 worth or real estate will be put on the exchange for transaction, of which 0.3 per cent will be collected as the charge); Yen 344,000, interest for loans. Expenditure, Yen 128,160, inclusive of salary, taxes, and other business expenses.

In the first business period the concern will pay no dividend even though the profit is larger than estimated.

Canadian Trade and Finance.

The Gest Library of Chinese Literature.

February 7, 1929.—In spite of political and financial disturbances which have prevented normal economic progress in China, Canadian exports to that country are increasing at a more rapid rate than exports to any other part of the world. Prior to 1915 there were only two years in which the value of Canadian exports to China had been in excess of one million dollars and in that year the value was only $250,000. In the last twelve months the value of exports to China was in excess of $14,000,000, and in 1926, the record year of Canadian exporting, the value of exports to China amounted to $21,000,000. Annual exports to the Chinese and Japanese markets now have a value in excess of $50,000,000.

Those who are well acquainted with the Chinese, state that there are few countries in the world where friendship and respect play a larger part in determining the channels of trade. Those Canadians who desire to encourage the growth of this trade relationship should consider the necessity for understanding and appreciating Chinese culture and Chinese thought. It is only upon such a basis of mutual respect that friendship may be established. In the past, the West has expected the Chinese to adopt Western ideas, Western methods and Western machinery, as well as to communicate in Western languages. Without the appreciation of the viewpoint that Eastern customs and Eastern thought are probably far better adapted to Eastern conditions, the West will seem lacking in both sympathy and understanding. In the remote past, the Chinese have made no small contributions to Western thought and advancement; with the exception of writing itself, the invention of printing was probably the most important individual contribution to civilization in history. The Chinese know that their literature and culture are on such a plane that they may expect to make further contributions to knowledge. They cannot be expected to be entirely willing to adopt the best ideas of the West unless the West proves itself equally open-minded.

A country such as Canada which is selling ten times as much goods to China as it is buying from that country has special reason to acquire a knowledge of the habits, customs, styles and trends in that country. From a business viewpoint, such information may be regarded as pre-requisite to market analysis.

In this connection, the Gest Library of Chinese Literature at McGill University in Montreal furnishes a valuable medium for securing a wide variety of information covering China. This library is the best of its type outside of China. Research students are in attendance who will be glad to compile all possible information on any subject of interest to those making enquiries. These services are supplied by the library without charge. The books in this collection contain information on a remarkable range of subjects.

In the field of banking, for instance, there may be found the story of the earliest experiments in the circulation of paper money. "Flying money" was in circulation in China in about the year 800 A.D., at least a hundred years before paper itself was known in Europe. Experiments concerning inflation and deflation were conducted in China at about the time of the Norman Conquest. At the time of Marco Polo, when no European court had a total annual budget amounting in value to as much as one million taels a year, the treasury of the great Kaan was finding it possible to print and circulate additional paper currency to the extent of thirty-seven million taels a year, without producing inflation. Even from the viewpoint of the history of printing, the fact that there were billions of pieces of paper currency in circulation in China about 800 years ago is a fact of general interest.

In the great 5,000 volume Chinese Encyclopædia, available in the Gest Library, will be found material of interest to chemists, physicians, economists and research students in many other fields. It is important to realize that the Chinese scholars at the Library will compile and translate such material for all those making serious enquiries. To the peoples of both Canada and the United States, this Library may prove to be a doorway opening upon the Orient. In future issues of this Monthly Letter there will be some account of the economic experiments which have been described by the great scholars of ancient and modern China.

Canadian Electric Power: An Object Lesson to Mysore.

In 1928, the Canadian consumption of electrical energy increased 16% over that of the previous year. In 1927, there had been an increase of 14% as compared with 1926. The same general rate of increase was shown in

Ontario and Quebec as in other parts of Canada but the fact that about 80% of the total turbine installation of the country is found in these two provinces makes the 16% increase in this area particularly significant. If the average production during the months of September, 1923, 1924, 1925 is taken as the basis for an index number of 100, the index number of production in September, 1928, becomes 200, and as a result of a similar process the index numbers for October and November, 1928, are 212 and 207 respectively. This index number reveals the fact that electric energy production in 1928 is more than twice as large as that in 1924, the mid-year in the base period of the electric index. The average amount of electrical energy generated daily in Canada for Canadian use in each month from January, 1928, through November, 1928, is given in the following table. The second table gives the same figures for Ontario and Quebec.

Daily Average of Electric Energy produced for Canadian Use.

(Kilowatt hours—000 omitted).

Canada.

		1926	1927	1928
January	..	25,740	32,148	38,588
February	..	27,073	33,212	38,858
March	..	26,206	32,220	37,833
April	..	25,316	31,611	37,728
May	..	25,223	30,811	37,053
June	..	25,601	31,102	37,114
July	..	24,611	29,970	36,527
August	..	25,075	32,898	37,812
September	..	26,462	34,469	38,437
October	..	27,384	37,266	42,331
November	..	27,723	39,190	43,995
December	..	28,793	39,047	..

Ontario and Quebec.

		1926	1927	1928
January	..	19,970	26,286	31,336
February	..	21,155	27,471	31,871
March	..	20,213	26,664	30,468
April	..	19,917	26,102	30,597
May	..	19,939	25,398	30,347
June	..	20,238	25,742	30,518
July	..	19,468	24,762	30,122
August	..	19,795	27,428	31,101
September	..	20,860	28,746	31,638
October	..	21,445	30,597	35,927
November	..	21,378	31,821	37,272
December	..	22,494	31,784	36,372

The advances that have been made since the beginning of the century in the Canadian turbine installation are indicated by the figures in the following table. The turbine installation in the first decade of this century increased by approximately three-quarters of a million horse power; in the second decade, by one and one-half million horse power, and in the first eight years of the third decade, by nearly three million horse power.

	Horse power installed.
1900	170,000
1910	975,000
1914	1,940,000
1920	2,508,000
1927	4,778,000
1928	5,350,000

To the total increase of some 550,000 horse power during the past year, Quebec contributed an installation of about 300,000, bringing the total capacity within the province up to about 2,380,000 horse power. Recent developments include two new 43,000 horse power units at Shawinigan: six 8,800 horse power units by the Montreal Island Power Company; and one 45,000 horse power unit by the Duke-Price Power Company. It is anticipated that four units of 65,000 horse power each will be completed by the Aluminium Company before July, 1931. Ontario follows close behind this with a development of 1,890,000 horse power representing 21% *of the total possible installation.*

The Ontario Hydro-Electric Commission is shortly to increase its capacity by about 115,000 horse power. The Gatineau Power Company has added six 34,000 horse power units at Paugan and has plans for early installation of some 231,000 horse power at this and other points. In addition to the projects mentioned above, there was about 100,000 additional horse power completed in Ontario during the past year, of which the greatest portion was due to installations of the Spruce Falls Company and the Canada Northern Power Corporation. In the near future the International Nickel Company and others are expecting to add about 35,000 horse power to the present total.

Important developments have also been taking place in Manitoba and British Columbia. The Manitoba Power Company increased its capacity by 56,000 horse power in 1928: the Hudson Bay Mining and Smelting Company began work on a 45,000 horse power plant on the Churchill River, while on the Winnipeg River the North-Western Power Company and the City of Winnipeg have plants under construction to develop 225,000 and 100,000 horse power respectively.

In British Columbia, the West Kootenay Power and Light Company is completing a 75,000 horse power plant at South Slocan, and at Seton Lake the Bridge River Power Company has begun work on the first stage of an ultimate development of 500,000 horse power. In the remaining provinces, the Calgary Power and the Churchill River Power Companies are constructing 36,000 and 42,000 horse power.

plants respectively, while in the Maritime Provinces the Saint John River Power Company has initiated the first of three 20,000 horse power units at Grand Falls, and the Nova Scotia Power Commission is engaged in developing over 34,000 horse power centered chiefly on the Mersey River.

The growth of the capital investment in this industry has been proportionate to the growth in energy production, and the total investment is now estimated as being close to one billion dollars. In this respect, the power industry is now ahead of all other Canadian industries. Between 1910 and 1928 the volume of investment in this industry increased from $121 million to over $900 million. The plants now under construction call for further investment of about $200,000,000 for construction, machinery, transmission and distribution. In order to utilize electric energy it is necessary to expend about six dollars in the construction of plant and equipment for each dollar which is invested in direct power development. The projects planned and under construction will involve a further investment in Canadian industry, amounting to more than one billion dollars. This expenditure will have an influence in all phases of Canadian industry and will be of particular importance to the building and machine industries.

Canadian Fisheries in 1928.

A number of factors affecting the fishing industry of Canada have worked together to make 1928 the most generally profitable year since the war. Good weather during the season, heavy runs of fish, and profitable marketing conditions due to short catches elsewhere produced a total yield estimated at $50,000,000. The industry represents a capital investment of over $50,000,000, and gives direct employment to approximately 80,000 people and in addition there is a reasonable number employed in boat-building, rope-making and other subsidiary industries. Prosperity has been general throughout all divisions of the industry.

Maritime Fisheries.

The value of the catch on the Atlantic seaboard will exceed that of 1927 by at least $1,000,000. Fishermen engaged in the dried fish trade enjoyed a particularly successful season. Because of the high prices, the Lunenburg deep sea fishing fleet made an extra trip during the season and although the total catch was only slightly more than that of 1927, the return to the fleet will be almost half a million dollars greater. Cod prices rose almost 50% due to short catches in Newfoundland and Norway. The lobster catch was slightly larger than in the previous year, and the return from sardines and smelts also increased.

An important recent development in the Maritimes has been the new refrigeration method evolved by the Biological Board of Canada. After three years of research, a new process of quick freezing to very low temperatures has been discovered. This has permitted test shipments of haddock to Toronto, formerly considered too far inland to be a market for fresh sea fish. The success of these experimental shipments opens to Maritime fishermen prospects of profitable and hitherto unattainable markets in the interior of the continent. If this freezing process can be used on a commercial scale, the new cold storage plant at Halifax will solve another problem in the efficient marketing of fish.

Inland Fisheries.

The value of the fish of various kinds taken from our inland waters amounts annually to about $7,000,000, or approximately 15% of the value of the total Canadian catch. The greater part of this yield comes from the Great Lakes, but fish to the value of $1,500,000 are taken from the Prairie Lakes. It is interesting to note that a catch of about 1,750,000 pounds is obtained annually from Lake Athabasca. The results of the operations of 1928 are not yet available, but it is estimated that the yield and value will be at least equal to the average of recent years.

Pacific Fisheries.

On the Pacific coast there has been a marked increase in the value of fisheries during the past year. The salmon pack increased from $12,000,000 to $14,250,000, in spite of a reduction in fishing gears and stationary prices. The catch was, in fact, not much smaller than the record catch of 1926. The increase was mainly in the cheaper grades, due to the biennial heavy run of pink salmon. A recent feature of the Pacific salmon industry, however, has been a rapid extension of the market for these lower grades in Africa, Latin America and Continental Europe. Direct steamship connections have enabled exporters to sell at a more satisfactory price than was formerly possible.

The halibut catch has been large: Canadian landings at Prince Rupert have shown a record increase of 1,000,000 pounds. The salt herring industry is becoming increasingly important, with an annual production of well over one million dollars. The most recent important

development on the Pacific Coast has been in the pilchard reduction industry which produces fish oil, meal and fertilizer. In 1924, legislation was obtained permitting the utilization of this fish for conversion, and the catch has increased from 19.000 hundredweight in 1923 to 1,411,000 hundredweight in 1928. The meal produced is used largely as fertilizer, but last season there were substantial exports to Europe for use as cattle and poultry feed.

Indian Economic Notes.

Economics in India.

At the Indian Economic Conference held in Mysore early in January, Prof. V. G. Kale remarked that the Royal Commission on Agriculture had made one very striking observation which went to the very heart of the matter they were dealing with there. He further said: "Declaring that the most important factor making for agricultural prosperity is the outlook of the peasant himself and that the success of all measures designed for the advancement of agriculture must depend upon the creation of conditions favourable to progress, the Commission maintains :—' The demand for a better life can, in our opinion, be stimulated only by a deliberate and concerted effort to improve the general conditions of the country side, and we have no hesitation in affirming that the responsibility for initiating the steps required to effect this improvement rests with Government.' It proceeds to state that the failure to grasp the full significance of this proposition explains the absence of any co-ordinated effort to effect the required change in the surroundings and the psychology of the peasant without which there can be no hope of substantially raising his standard of living."

"This frank and emphatic statement of the Royal Commission furnishes the key to correct understanding of the larger problems of Indian Economics—a terminology which, by the way, is still found perplexing by some thinkers in this country—and apart from their narrow aspect of immediate political expediency, controversies in connection with such questions as those of the Reserve Bank, reservation of coastal trade, purchase of government stores, railway rates and the investment of foreign capital in India, are not likely to be intelligible in their economic bearings without its help. We have long played hide and seek with our problems. Consider again the condition of the Indian peasantry. The revenue authorities study it from the restricted point of view of taxation and rent, and Ricardo's theory of rent is used or misused in the process. The Irrigation Department must be run on a commercial basis and is concerned with its income from water rates to be charged to the cultivator. The Forest Department has its own rules to enforce on the peasantry, surely in the best interest of the nation's valuable property. The Agricultural Department wants the ryot to adopt improved methods, and co-operators urge him to join their movement, both with the idea of increasing his income, a good slice of which is, however, taken away by the Indian Finance Member through his exchange policy. The Government and the legislature propose to consolidate his holdings and prevent fragmentation. The local board wishes him to pay higher rates to be able to enjoy greater amenities of life and Government cannot do without more money coming from the same source. The advocates of khaddar preach to him the virtues of the charkha. And the sowkar is all the while there watching the whole game with interest and curiosity. The problem is thus handled piecemeal, the friends of the ryot play at cross purposes and nobody knows exactly how the agricultural industry and the peasant stand economically. It is hardly realized that no amount of research on crops, fertilizers and pure seed—things valuable in themselves—will improve the condition of the peasantry until we study the ryot as a whole as well as in parts. An intensive study of the different aspects of his life and activities is indeed indispensable, and much work has still to be done in this direction. We, in this Conference, have been doing our bit and discussing such problems, *e.g.*, marketing and land tenures, and much more needs to be done throughout the country along the same lines. But we must also see things in their proper perspective. The social, the organic, the national point of view must never be lost sight of in all such questions."

Resin Industry in U. P.

The following is an extract from the Government Resolution on the annual progress report of the Forest Department on forest administration in the United Provinces for the year 1927-28 :—

The account of the resin industry shows

that the methods of extraction are being steadily improved at the same time as economies are effected in the cost of supply. The increased average yield from 5.32 maunds to the record figure of 5.93 maunds per hundred channels led to the supply of no less than 105,597 maunds of resin to the Indian Turpentine and Resin Company. From the point of view of departmental working the results are eminently satisfactory, but unfortunately the Company over-estimated its requirements and found itself with a very much larger stock of resin and turpentine than it could dispose of. A slump also occurred in the world prices of turpentine, with the result that the Company found it unprofitable to dispose of a considerable part of the large stock which it held. To enable it to do so it must export turpentine which could not compete in the world market at prices ruling, unless the price which the Company paid to the department for crude resin was reduced in some way. Government considered whether under the terms of the agreement they could compel the Company to take resin without a rebate on royalty. Of the three legal opinions given, two were that they could not do so. And in any case since Government hold a substantial proportion of the Company's shares they would have stood to lose rather than gain financially by compelling the Company to increase their existing surfeit of stock at a price which would have made profitable trading impossible. Government were, therefore, faced with two alternatives, either to allow the Company to take no resin during the year 1928, or to give the Company a rebate on the royalty for the 1928 supply. The first alternative would have meant shutting down the resin industry of Kumaun temporarily. This would have caused unemployment in Kumaun, and entailed great expense in re-starting the industry later. Government, therefore, agreed to a rebate on the royalty for that year only. The event has justified them in choosing this course: for the Company in spite of adverse trade conditions has been able to maintain its dividend of 10 per cent from which Government derived their share of profit on the shares which they hold in the Company to the face value of Rs. 3 lakhs. A satisfactory formula has now been evolved, whereby part of the royalty will be paid whatever the results of the year's working, and the payment of the balance will depend upon the trading profits of the year. This arrangement introduces the necessary elasticity into the system of supply, and should prove a permanent solution of the difficulties which have arisen in the past.

Forest Research in Bihar.

The following is an extract from the Government Resolution on the annual progress report on Forest Administration in the province of *Bihar and Orissa* for the year ending the 31st March 1928:—The programme of research was reduced in several directions this year to facilitate concentration on problems that required early solution. The principal subject of research was, as before, the regeneration of *Sal*, the most important species of timber in this province. In the utilization branch there were several interesting developments. The construction of the air seasoning shed at Ranchi has enabled research into the seasoning of timber to be started in earnest, and this branch of investigation is expected to give valuable results. The Department took up the question of exploiting half-round sleepers and succeeded in obtaining some contracts. If this type of sleeper can be made popular with the railways, it would bring a great advantage in enabling the Department to utilize the timber extracted from forests more intensively and to cut down wastage. The experiments carried on for the last two years in the artificial cultivation of *sabai* grass showed promising results which indicate that the grass can be cultivated successfully under commercial conditions and the cost of harvesting reduced. This may become a matter of importance in the paper industry.

The year was a poor one for lac cultivation and the results obtained were in some respects disappointing. It has been necessary to close down two small plantations in Sambalpur owing to their inaccessibility during the rains and another at Kundri in Palamau owing to the existence of grazing rights and the infertility of the soil. Valuable experience, however, has now been gained as to the factors necessary for a successful lac cultivation and this has enabled the Department to concentrate on those plantations where the conditions are favourable and to select suitable sites to replace the plantations which have been closed. The main requisites are a fertile soil, the destruction of weeds, intensive cultivation and accessibility.

Paddy Swarming Caterpillar.

The Digest of the operations of the Department of Agriculture, Madras, in December 1928, states:—A regular campaign was undertaken during the year against this paddy swarming caterpillar insect pest in the taluks of Ponnani, Chirakkal, Kottayam, Palghat and Walluvanad in the Malabar District. This campaign has now been in existence since 1925 and during these four years

all the parts of Malabar, except Wynad and Ernad, have been dealt with and almost every village has been visited by the officers carrying it out. So long as a policy of waiting for reports of the insect attack to come in was adopted, no good results were obtainable. It is difficult to get the ryots to understand the necessity for prompt methods of control. They usually wait until the damage has been done before they say anything about the pest and it is then too late for the departmental officers to help them. This was the case this year in the Chirakkal and Kottayam taluks despite our precautions. Now instead of waiting a policy of having officers on the spot ready to deal with the pest directly it appears, has been adopted with much better results. This year the insect attacked the "kole" cultivation in the Ponnani taluk and it was at once noticed and the ryots were induced to co-operate and deal with it by flooding, sweeping and kerosenating the water and it was effectively checked. The campaign will be continued in these same taluks during the next season and it will also be extended to the Ernad.

INDIAN CUSTOMS REVENUE.

The grand total of gross Indian Sea and Land Customs Revenue (excluding Salt Revenue) during the month of February 1929, amounted to Rs. 4,17 lakhs, as against Rs. 4,92 lakhs in the preceding month and Rs. 4,11 lakhs in February, 1928. The total revenue realized in the eleven months ended February, 1929, was Rs. 45,80 lakhs against Rs. 44,81 lakhs in the same period of 1927 28. To this, import duties contributed Rs. 37,65 lakhs, export duties Rs. 4,90 lakhs, excise duties on motor spirit Rs. 1,45 lakhs and on kerosene Rs. 84 lakhs, and land customs and miscellaneous Rs. 95 lakhs. Increases were noticeable in import duties on sugar, tobacco, motor cars and cycles, cutlery and hardware, pneumatic rubber tyres and tubes and paper and stationery(protective), in land customs receipts and in the excise dnty on motor spirit. On the other hand, import duties on iron and steel, including railway plant (both protective and non-protective), matches and cotton piece-goods, the export duties on jnte (raw and manufactured) and rice, and the excise dnty on kerosene showed decreases. The protective special duties collected on the private imports of iron and steel and paper and stationery during the eleven months ending February, 1929, yielded Rs. 2,39 and 26 lakhs, respectively. The duties on Government Stores, inclusive of protective duties collected thereon, amounted to Rs. 60 lakhs as compared with Rs. 100 lakhs in the corresponding period of the preceding year.

PROHIBITING WOMEN IN UNDERGROUND MINES.

In exercise of the powers conferred by section 29 of the Indian Mines Act, 1923, the Governor-General in Council has made regulations for prohibiting the employment of women underground in mines. The regulations are published in the *Gazette of India*, dated the 9th March, 1929. They do not extend to coal quarries or open workings. The Railway Board have, however, decided that the employment of women in certain forms of work in open workings in railway collieries should also be put a stop to and are issuing orders to this effect. These orders will result in the gradual elimination of the employment of women as coal getters, or as earth workers on the over-burden at depths of more than 60 feet.

A CO-OPERATIVE EXAMPLE.

The Co-operative Movement in India has already done much for the agricultural classes, and those who are working with many difficulties in the way to better the lot of the Indian land-holder may be encouraged by an example from Europe. Interesting developments in co-operative agricnlture are taking place in Spain and it is interesting to note that an Agrarian Conference has co-operatively accomplished extensive irrigation work and has interested itself in the problem of marketing rural produce. It has, moreover, by establishing a rural bank, been responsible, according to *The Universe*, for the abolition of usury in the country round Carrion de los Condes. One of the greatest handicaps to the prosperity and well-being of the Indian cultivator is the money-lending system whereby agriculture is largely financed and the pernicious system whereby the marketing of the resultant crops is in the hands of the money-lender. With co-operative banks the cultivator can finance himself without the payment of exorbitant interest, and by co-operatively organized marketing reap the fullest benefit of bis labour. The reported success of the Spanish experiment and of similar tentative efforts in this country should encourage those who are working towards these beneficent ends in Sind and other parts of India.

FOREIGN SEA-BORNE TRADE.

The total imports of private merchandise in January, 1929, amounted to Rs. 26.84 lakhs and total exports, including re-exports, to Rs. 30,33 lakhs. Net imports of private treasure during the month of report were Rs. 2,33 lakhs and the

total visible balance of trade in merchandise and treasure was Rs. 1.25 lakhs in favour of India. Balance of remittances of funds was *minus* Rs. 2,65 lakhs.

RESEARCH.

In this number we are publishing an article on '*Research and why we should be interested in it*' from the pen of Mr. C. T. Young F.R.G.S., of Canada. We owe it to the courtesy of *Industrial Canada*. It is well worth attention. Recently the Linlithgow Commission has recommended *Research in Agriculture and in this State*, at the last session of the Mysore Economic Conference, Dr. Coleman, Director of Agriculture, suggested the co-operation of the University with the Agricultural Department in the investigation of scientific problems connected with agriculture. His note on the subject is an interesting one and formed the basis of discussion at the Conference. It is to be hoped that it will receive further attention in the near future.

LAND MORTGAGE BANK AT MADRAS.

It is announced that the Government of Madras are working out a proposal to establish a Central Land Mortgage Bank at Madras to centralize the issue of debentures in order to strengthen the existing mortgage banks and to facilitate the opening of analogous institutions in each important district. We do not know whether the proposal had been sufficiently investigated or not. But it aims at giving some relief to rural indebtedness and so far the proposal has our entire support. The idea of land mortgage banking in India is not an indigenous one; it is borrowed from the example of a few successful institutions in Germany, Norway and Sweden; city financiers have not given any great attention to this aspect of rural banking; the idea is being propagated by those who claim to speak for the welfare of the agriculturists and hence no serious opposition has been put up against it lest one should lose his popularity. The idea of land mortgage banking is an offshoot of the principle of co-operation in its widest sense. The ultimate success of a co-operative movement depends upon the amount of individual sacrifice for the good of the members collectively; it is based almost entirely on mutual confidence and trust and it does not beg for active support from outside its own sphere. But the principle of land mortgage banking is something more than this. A land mortgage bank cannot successfully function unless it gets assistance in the form of funds from outside its sphere which cannot be expected to be directly benefitted. Provided management is efficient, land mortgage banks can be quite successful in selected areas. But if they are to spread over all the province or the country the question must be viewed from a different standpoint. In this connection we put three questions for consideration: (1) Is it prudent or beneficial to the landlord in the long run to enable him to carry his debts for a long period and pay interest at a rate higher than the rate of income on his estate? (2) Is there a possibility of the land mortgage banks themselves becoming the owners of property mortgaged and thus ejecting the present proprietors of land? (3) Is it a sound business proposition to finance a scheme which cannot at any time earn a rate of income at least equal to the rate of interest at which money is advanced?

RESERVE BANK.

Cotton and Finance writes on Mr. Layton's task in India:—We cannot say whether the Royal Commission will recommend dyarchy in the Central Government. From a constitutional standpoint the Reserve Bank scheme, which meant the transfer of currency administration to a non-official body, is really an important move in the direction of responsible government. It can safely be presumed that at some time or other the Reserve Bank will come into existence. Further, in the light of recent experience it is absolutely necessary, in order to establish public confidence in the monetary transactions of the Government of India, to hand over the administration of the Public Debts Department of India to a more responsible body outside the Government, corresponding to the National Debt Commissioners in England.

The Queensland Government is seeking the co-operation of the Commonwealth Government under the British Migration Loan Scheme, in connection with the Dawson Valley irrigation undertaking, on which it *is proposed to spend £2,500,000*. The project involves the construction of a railway about 52 miles long and the building of a dam with a hydro-electric station. The dam itself is estimated to cost about £1,000,000, and would store 2,480,000 acre-feet of water, the submerged area being 83,177 acres, principally of second and third class land. The project is designed on the zone system, each of the five zones including 40,000 irrigated acres and 40,000 acres of dry area served by a stock and domestic water supply, and each having its own township connected with the Dawson Valley railway.

Topics in the Journals.

India's Economic Position and Prospects.

In a special article in *The Statist* (*Jubilee Number*) Sir Atul Chunder Chatterjee, K.C.I.E., writes :—

Though the vast majority of her immense population are engaged in agricultural pursuits, India has been acknowledged by the Council of the League of Nations as one of the eight chief industrial countries of the world. Her external trade constitutes only a very small portion of the entire trade of the country, but even so it is of very great dimensions, being exceeded only by that of five other countries. It is necessary to remember these facts in order to obtain a true comprehension of the economic position of India at the present moment.

Like most other countries of the world, India was faced by serious financial and economic problems during the years immediately following the war. There had been a series of Budget deficits, involving the imposition of much new taxation at a time when the industries of the country were depressed and agriculture was suffering from a series of bad seasons. A great change has, however, been effected during the last five years. The Budget of the Central Government has been balanced without the imposition of fresh taxation; the Provinces have been freed from the burden of contributing to the finances of the Central Government, and have been thus enabled to adopt the requisite measures for the development of education, sanitation, agriculture and other necessary reforms. The value of the rupee has been stabilized, and the difficulties of foreign trade have been very considerably removed.

The varied agricultural and mineral resources of India, if properly developed and utilized, will undoubtedly secure her an assured economic future. As regards the human factor, the people of India are frugal, abstemious and industrious, but they suffer from ignorance and illiteracy, from disease, and from the bonds of customs and traditions which are serious hindrances to development and progress along modern lines. The Government, as well as the people of India, are well alive to the necessity of reform in these respects. It would not be appropriate for me here to describe the measures that are being adopted in these directions.

Treating only of the material progress of India, I should like, first of all, to refer to the steps that are now being taken for the development of agriculture, which still is, and will always be, the main industry of the country. The dependence of Indian agriculture on the annual rainfall is well known, but much can be done both to secure existing agricultural areas from the vagaries of the monsoon and to increase the area under cultivation by the development of irrigation. Since the beginning of this century the irrigated area of India has increased from 19 million acres to over 28 million acres. There are many new projects now under construction. I need mention only the Sukkur Barrage scheme in Sind, the Sutlej Valley project in the Punjab and the Cauvery Reservoir project in the Madras Presidency. A Royal Commission on Agriculture has been at work for the last two years, and has just presented a report, which, it is hoped, will lead to many improvements in agriculture. The forests of India which mostly belong to the State, cover a quarter of the whole area of the country. The Indian system of conservation is an example to the rest of the Empire, and methods of commercial utilization are now in progress which will greatly enhance the economic value of the forests and increase the material resources of the country. Research both in agriculture and in forestry has not been neglected in the past, and is now receiving a great impetus. In the matter of mineral wealth, which, also, with the exception of certain Provinces, belongs almost entirely to the State, the policy of the Indian Government has been to encourage scientific exploitation without waste or spoilation. The large deposits of coal and iron in different parts of India are well known. In spite of temporary or momentary set backs a bright future may be confidently predicted for both the coal and the iron and steel industries. The other mining industries, such as gold, manganese, lead, tin and oil also show every sign of future prosperity. Among the textile industries jute is well established. The efforts that are being made to improve the quality and the staple of Indian cotton have already met with considerable success, and there is no reason why, with proper organization, the cotton-spinning and weaving industries in India should not make continued progress. New industries are being established in silk and wool. It is unnecessary here to describe the many other industries that are now being started in India or to discuss their future prospects.

Although as has been indicated above, there are large deposits of coal in certain parts of India; coal is very expensive for many industries in view of the long distances of haulage. Attention is, therefore, being given to the utilization of hydro-electric power. Such projects are already in actual operation in Bombay, and are being actively pursued in the Punjab and in the Madras Presidency. If the immense water power which is available in different parts of India can be harnessed for industrial use, not only will it be possible to develop organized industries on a factory scale, but it will also be possible to revive many of the smaller cottage and home industries for which India has always been noted.

Much attention is being devoted to the development of transport and communications. Already the railway system covers nearly 40,000 miles. In recent years the existing railways have been modernized and brought up to date in every respect, and the attention of the Government, which again is the ultimate owner of most of the Indian railways, is now being actively directed towards the construction of new railways to cover the areas which are still insufficiently served. At the same time, with the development of motor traffic, the roads are receiving attention, and a special inquiry is now on foot. Navigation on the great inland rivers has also received considerable stimulus in recent years. The great seaports of Calcutta, Bombay, Karachi and Rangoon have been enlarged and modernized, minor ports, such as Chittagong, Tuticorin and Cochin, are being developed, and a great new harbour is being constructed at Vizagapatam, halfway between Calcutta and Madras. A notable development in this direction is the recent construction of several new, though small, seaports in Indian State territory along the coast between Bombay and Karachi. After Great Britain, India has the largest sea-faring population in the whole world. Measures have been taken for the training of Indian youths for the position of officers in the Mercantile Marine.

I hope it will be evident from this brief description that every effort is now being made by the Government and the people of India for a full utilization of the immense human and material resources of the country. The dangers attending on a rapid industrialization have not been overlooked, and in recent years the labour legislation of India has been entirely overhauled and will now bear comparison with similar legislation in any other part of the world. If in the coming generation India is spared any overwhelming natural calamities or serious wars, there is every reason to hope for the increased economic and material progress of the country.

American Federal Reserve Banks.

To understand, says *Cotton & Finance*, what exactly the Federal Reserve Banking has accomplished for America, it is necessary to keep in mind the conditions prior to the great debacle of 1907 when the whole structure of American Banking was shaken to its foundations in spite of various efforts made by the Government to prevent the catastrophe.

To a very large extent the currency of the United States has been composed of various kinds of paper issue with different systems of backing.

Under the old rules regulating the Bank resources it was incumbent on each bank to hold a metallic reserve of approximately 30% of the total liabilities and this metallic reserve was generally deposited by the smaller banks with one or other of the greater banks in the cities and whenever trade conditions required actual payment of currency from the tills, they withdrew their deposits from the city banks and when demand fell they returned them to the city banks. These in their turn included such deposits in the total of their liabilities and did not keep in their vaults more than the necessary legal percentage of cash to liabilities. The benefits of this system on the actual cash reserve available to the smaller banks in times of crisis were small!

Consequently, a very large number of banks had to close their doors in 1907 in spite of what one might be justified in calling the inveterate banking habit of Americans and public confidence was shaken for a considerable time and the desire steadily gained ground for hoarding metallic and paper currency issues with Government backing.

A second feature of this banking system was that at the various monetary centres such as New York, Chicago, Philadelphia, San Francisco and St. Louis, there was always a demand for remittances to other centres which could not be met except by a premium paid to those who maintained such balances. *In every centre there was, therefore, a margin of nearly 2% charged on the purchase or sale of funds to other* centres and several of the bigger banks were obliged to remit actual cash to their correspondents at other centres in settlement of the drawings they made on them. *The cost of insurance and transit charges for* such currency shipments was necessarily passed on to the remitters.

The demand for money was always more or less concentrated. The requirements of foreign trade and commerce called for credit at certain periods of the year after the agricultural classes had made their demands for the harvest and transport of produce to the port towns. The bigger manufacturing centres such as Chicago, Philadelphia, Buffalo and Cleveland were in need of credit at other periods of the year and yet as the demands were made at different monetary centres, it was not possible to transfer the surplus fund to the centre where demand was keen. Consequently, the rates charged by banks in one centre were different from those charged in others. The rates depended on the actual resources of the banks at these centres and the extent of the demand. The actual realization by a bank of a draft on another centre was an operation involving time and risk.

With the introduction of the Federal Reserve Bank scheme almost all the difficulties mentioned above have disappeared and in the light of experience gained recently the facilities available to the banks and the public in general have been increased.

The Reserve Bank is primarily and in every way a banker's Bank. It is conducted on behalf of the banks *in order to increase their prosperity in every way and* to help them in utilizing to the best advantage the resources at their command. The entire stock of the Reserve Banks is owned by the 9,000 odd member banks and the amount of such ownership is limited to *6% of the bank's capital and reserve funds.* As a matter of fact, however, only 50% of this limit has been called up so far. While the actual detailed policy of each Federal Reserve Bank is left to its directorate, there is a general controlling Federal Reserve Board at *Washington which meet once a month to discuss the* various problems placed before them by the Reserve Banks and to formulate uniform policy to be followed in certain matters such as the discount rate, the amount of credit to be allowed to member banks and the necessity, when it arises, of the closer inspection of the member banks' resources. The Reserve Banks are established at 12 of the important monetary centres in the United States. Each of these is managed by a directorate of 9 members, 3 of whom are appointed by the Federal Reserve Board at Washington and the other 6 are elected by the constituent banks, *i.e.*, the banks which have contributed to the capital of the Reserve Bank. In order to provide for the proper representation of all interests on this directorate it is a condition that of the 6 elected members in the Board 3 must be men actively engaged in commerce, agriculture, or industry, and it is presumed that according to the particular kind of activity in the district to which the Federal Bank caters, there is a proportionate representation on the directorate.

The Federal Reserve Banks are permitted to issue currency notes which would not replace the currency already in existence but supplement them in accordance with the trade demand. In the first place, they could issue gold certificates of the actual face value of gold bullion or coin deposited with them by the member banks. This currency is, by its nature, restricted to the volume of gold produced or acquired by the country, *which has been in the neighbourhood of* 67 million dollars per annum in ordinary times. The currency of the country has, therefore, been steadily expanding by this amount every year though there have been periods of heavy drains such as 1916 and 1917 and equally *abnormal imports such as* 1921-24 of nearly 300 million dollars per year.

The Reserve Banks are permitted to issue Federal Reserve Notes with a metallic backing of 40%, *i.e.*, if the amount of the reserve is 2,000 million dollars a bank could issue currency of the same amount under the clause of gold certificates or 5,000 million dollars of Federal Reserve Notes. The question as to the form which the currency issue should take is left absolutely

in the hands of the Federal Reserve Bank directorate and they regulate it in accordance with trade demand. There is thus a very valuable element of elasticity in the note issue which has helped very beneficially the actual working of bank credit.

In addition to ownership of stock, member banks are obliged to maintain a credit balance in the Federal Reserve Bank of 10% of all demand deposits in the case of city banks and 7% in the case of country banks. and 3% of all time deposits. The total reserve of the member banks, therefore, instead of being held with other competing banks, is now placed at the disposal of the Federal Reserve Bank who are able to meet the requirements of all the member banks by the pooling of the resources and thus the issue of currency is made elastic.

The policy of the Federal Reserve Banks is, therefore, to look after the interests of the banks and the public in general but not to acquire profit. In order to ensure that this will be done, provisions are made in the Act by which the member banks are entitled to a 6% dividend on their capital stock. The next demand on the earnings is the reserve fund which is to be raised to an amount equal to the total subscribed capital of the Federal Reserve Bank and when this limit is reached 10% of the actual net earnings after paying expenses and dividends to member banks is to be credited to this reserve fund. The third call is from the State. Any amount of profit earned beyond these two limits is claimed by the State as a franchise tax and neither the member banks nor the Federal Reserve Bank is interested in increasing earnings beyond the 6% dividend. The policy of the Reserve Bank is, therefore, essentially to keep down profits and to increase as far as possible its efficiency and service.

Books in Brief.

Short Reviews of Recent Books.

Hindi—English Self-Instructor.

By M. Satyanarayana Avadhanandan. Price Re. 1. p. 187. 1928.

The *Dakshina Bharat Hindi Pracharak Maha Sabha*, Madras, stands for a universal propagation of Hindi in Southern India. With this object in view they have published self-instructors in Hindi primarily for those who would desire to learn without the help of a teacher. This primer with its thirty-four lessons serves as a dependable text-book for learning the rudiments of Hindi in a short time. Would-be learners of Hindi ought to find in this little volume, which is systematically arranged, an easy guide. We would commend it to our readers as an ideal book for self-instruction. It is quite reasonably held that Hindi stands as the easiest and the largest medium for the linguistic unification of India. A common *lingua franca* for India is still a *desideratum*, and objections against adopting Hindi as our national language are getting rarer and rarer. Care must, however, be taken not to make in the introduction of Hindi any political capital, as seems to be done in certain thoughtless quarters. We must also be mindful of the fact that in our pardonable patriotic zeal the progress of English is not on any account retarded. Cultural and commercial life knows no geographical limits and English, an international language, happens to be the *via media* for a wider attainment of such objects. We earnestly wish that the objects of Hindi Pracharak Sabha may be realized in India. From the way the movement is being supported by prominent persons irrespective of creed, caste and colour, it ought not to take long to see its objects achieving fruition. G. V. R.

Zermott and Matterhorn.

By William Bellows. Published by John Bellows, Gloucester. Price 1*sh.* 6*d*.

Alpine mountaineering is dear to the heart of the Western European. Annually European Society adjourns to Swiss mountains and health resorts on hills to evade the summer and revel in the Swiss snows. In this booklet, the author has recorded the joys of mountaineering and the thrills of steep hill climbing round about the precipitous peaks of Zermott and Matterhorn. It is a breezy narrative full of incidents encountered by the author during his climb up. The booklet is interspersed with photographs of the gorgeous scenery of Alps taken by the author.

Economic Development.

By Prof. B. K. Sarkar, M.A. Published by B. G. Paul & Co., Madras. Price Rs. 8.

The author in writing this book on *Applied Economics*, has, in our opinion, taken the widest precaution possible to study and make a thorough investigation in the course of his travels throughout the European countries. His treatment of the subject is both analytical and descriptive and avoids technical and scientific terms as far as possible. As the materials so gathered are too vast to be comprised in a single volume, the subject has been carefully abridged without going "topic by topic and region by region". The chapters are described to be certain economic pages from the diary of an Indian traveller in Post-War Europe engaged in watching the moments or phases of evolution in agriculture, manufacture and commerce. As it is said 'the news of to-day is the history of tomorrow'—India also, the author assures us, must have her share of development in the economic sphere, in the next generation, though not now. The chapters that relate to India are of considerable value and form an important contribution to the study of Indian Economics. They are arranged in a clear and lucid manner and are ought to prove helpful to the lay reader who is desirous of knowing what modern development is doing for Indian well-being.

Stories of World History.

By F. W. Tickner, D.Litt. (Lond.). University of London Press, London. 3*sh*.

A world history primarily intended for school boys written in simple and attractive style is achieved in this volume. It embraces a connected version of the

important incidents in the history of all important nations; old and new, from the earliest times to the present day. The lives of celebrities in the narrative are noticeably stressed which marks out the book as one out of the ordinary. It ought to prove an ideal *text for school boys. It is well printed on good paper with numerous illustrations.* G. V. R.

In Darkest London.

By Mrs. Cecil Chesterton, Stanley Paul, London. *5sh.*

The title of this book by itself is eloquent of one side of London that is *ever an open sore of that opulent* city and a cause for terrible indictment by reformers. Mrs. Chesterton, a distinguished novelist and journalist, undertook the onerous task of studying the economic conditions of destitute women of London in a novel and amazing form. Leaving her comfortable home disguised in rags with no money in hand, she entered the underworld of London as a waif would enter it. By so doing she easily got into the inner circle of London's social outcasts and observed intimately as no one else can do in other circumstances. The result of this economic *cum*-adventure study reveals to the world how the lower order of women live in London in indescribable conditions of poverty and lack of shelter. The pages are stamped with sincerity and sympathy of a feeling woman for her fellow-mortals. They are vibrant with feeling that the destitute women of London are not *destitutes* by preference and calling but the result of the economic structure of commerial London which has a definite basis in favur of men. To improve the existing conditions the author summons to her aid the civic authorities and the charitable public of London to lend a helping hand in bringing a little sunshine into the life of pitiful wrecks of women in 'Darkest London'. Incidentally we, Indians, can profit by this sort of personal studies though it entails considerable hardship and powers of endurance. Sketches of this nature written with sympathetic care and a perspective for truth must be put into the hands of such people as Miss *Katherine Mayo and her ilk. A reading would chasten* them to keep their houses in order before bothering how others are. G.V.R.

The Indirect Effects of Christian Missions in India.

By Robert Smith Wilson, B.A. Published by James Clark & Co., London. *6sh.* pp. 220. 1928.

This book formed an essay which won the Sir Peregrine Maitland Prize of 1927 in the University of Cambridge. It is divided into two parts. The first deals with the indirect effect of Christian thought and ideals on Hinduism, and the second part is in the form of five essays on the problems that Christian influence has raised for itself since its advent in India. Christian Missions have been active in India for about two centuries. What have they accomplished in that time, and what problems have they raised? To the consideration of these questions the author of this volume brings the experience gained during many years' residence in India both as a missionary and as a business-man. He has done his best and in his own light to state the position succinctly from the viewpoint of missionary, intent on the best way of effecting a greater progress of Christianity in India than it is now. The author finds much to praise the efforts of Christian Missions but also does not hesitate to criticise and to make suggestions calculated to render the message of Christ more amenable to the Hindu genius. Mr. Wilson's opinions must be read by us as the views of an essentially non-militant and sympathetic missionary who *would not like to offend* Hindus in his zeal for Christian conversion. In this sense this book is well worth close attention in this country. G.V.R.

Neus Export-Adressbuch des Deutschen Reiches.

Vols. I and II. Richard Schroder, G.M.B.H., Wilmersdorf, Berlin.

This mercantile guide for buyers and sellers by the German firm of publishers, Richard Schroder, covers more than 1,000 pages. After the war, now that Germany has come to occupy a foremost place in our import lists, this all-in directory ought to come in handy for importers of German merchandise in India. It contains the addresses of leading German firms of every description and the wares they deal in.

Indian Economics.

Vol. II. By Messrs. G. R. Lathar and S. G. Beri. Published by D. B. Taraporevala Sons & Co., Bombay. Price Rs. 5-4.

The book, like its predecessor, is well written. In *the first chapter we get a clear view of the arguments* in favour of protection in India, the suggestion being made that without the "development of the indispensable adjuncts of modern economic life", the country may remain economically backward and unable to revive her efficiency. The general principles of Economics as relating to Indian Industries, the Poverty and Trade of India, Currency and Exchange, Banking and Credit, etc., are dealt with in a perspicacious manner. The inter-relation of consumption and production is rightly stressed, while the causes, peculiar and general, of the rise of prices in India are examined in detail in a separate chapter. From many points of view, the two volumes together form a complete study of Economics and as such deserve to be commended to the attention of students of Economics in this country. C.V.S.

Anauaire International De Legislation Agricole.

Published by the International Institute of *Agriculture*, Rome. Price 60 Lires.

This is the French edition of the now discontinued *Year-book of Agricultural Legislation* in English. Many must feel the disappearance of the English copy of the same for purposes of reference on agriculture legislation enacted throughout all countries in the world. We would like to see the English edition being revived in the interests of a huge number of English-knowing people diffused throughout the world who would not be able to follow the French text.

Acknowledgments.

1. *The Production of Cigarette Tobacco by Flue Curing.* By F. T. P. Shaw, D.SC. Price Re. 1.
2. *Design for Farm Buildings.* By G. S. Henderson, Price Annas 6. Government of India Central Publications Branch, Calcutta.

Articles in the Journals.

1. The Journal of the Mysore Agricultural and Experimental Union, November 1928.—*A Short History of Sugar in India*, by Noel Deerr.
2. The Journal of the Ministry of Agriculture, December 1928.—*The World Agricultural Census of* 1929–30, by R. T. Thompson.
3. Dun's International Review, March 1929.—*Increased Profits by Speeding up Stock-turn.*

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State Aid to Industries.

By the Editor.

The Mysore Government have in certain orders laid down the extent to which they are prepared to afford State aid to industries. *These will be found in Appendix (F) to* Government Order No. 2097-145-G. M. 55-12-239. dated 2nd September 1913. as amended by Government Order No. G. 8386-434-G. M. 67-13-247, dated 18th April 1914 (see *Manual of Important Orders*, III, 176). It seems desirable that this list should be revised at frequent intervals of time in the light of experience gained in the working of the Orders quoted above. A recent Report, issued by a Special Committee appointed by Government (Financial Aid to Industries), gives point to this suggestion. Serious difficulties have been felt in certain matters by private persons when endeavouring to pioneer industries. These are briefly as follows :—

I. *Land for Building Purposes.*—This is a prime requisite. Neither Mysore nor Bangalore is adequately provided with suitable buildings fit for immediate occupation or the installation of machinery, etc., for which special foundation is necessary. Nor could a private company be expected to lock up what little it may be able to collect in the shape of share capital in land and buildings. One of the besetting sins of Indian promoters of joint-stock companies is to strike the ground with insufficient capital and then find themselves unable to force ahead by want of fluid capital. This being acknowledged, it is felt that in the case of such joint-stock concerns as might come forward to start approved projects steps should be taken to help them witb suitable free sites or sites with nominal upset prices fixed on them and in the latter case to collect the price fixed in each case in instalments spread over a long number of years. This is the normal course adopted in Canada where, it may be added, the power to grant aid is vested under the law in the particular local body concerned. In some cases long leases have been granted to the parties and this may be adopted in certain instances here also. The Municipalities of Bangalore and *Mysore may be given some powers in this* matter subject to certain general rules framed in this behalf by Government. The object of these rules must be primarily directed to safeguard against the possibilities of indiscriminate grant of building sites. The power to grant may, in their cases, be limited only to joint-stock companies formed on the following lines :—

1. An approved object likely to augment the resources of the State, or its peoples or to add to their economic well-being.
2. A *prima facie* satisfactory Directorate.
3. A share capital of not less than one lakh of rupees, at least half of which should be called within 6 to 9 months of floatation of the company.
4. Location within City limits.

Other similar restrictions may be added if so desired by Government.

II. *Assessment.*—The Government should empower the two Municipalities mentioned above to levy, as above, if they choose fit in any case, a *permanent assessment* on buildings to be erected by an approved concern or to exempt from assessment altogether for ten, twenty or thirty years any such concern. This is quite common in Canada and Germany and even in South Africa.

III. *Laying in of Water Mains and Supply of Water for Building, etc., Purposes.*—This is done free of cost to industrial ventures in Canada and elsewhere in the Colonies. The supply of water for building purposes may, in Bangalore, in view of the prevailing local conditions, be fixed at a rate lower than the present one—say 6 annas per 1,000 gallons. The laying should be at the cost of Government. Probably the final orders in regard to the formation of

industrial suburbs in the two cities may involve the laying of pipes by Government itself in them. In that case, the question of laying would not arise.

IV. *Electric Installation and Power Charges.*—In regard to these, it is felt the laying charges now are too heavy and there appears good reason for these being done away with altogether in the case of approved industrial concerns. As to power charges, they may be lowered in particular cases where the use of power is both constant and heavy. In Canada especially this is quite a common concession granted to new industrial and allied concerns.

V. *Freedom from Imposts.*—The Government Order quoted above provides for the "exemption of new industries and other taxes for a term of years". This is a most important concession in keeping with the practice followed in Canada, Germany and other advanced countries and deserves to be given to promising ventures for periods of not less than 10 years at the least. The aids referred to above being extended only to approved concerns are not likely to be onerous to Government. Nor are they likely to be granted by the Municipalities concerned without careful consideration, once Government are pleased to lay down clearly the limitations under which they should act. If granted in deserving cases, they are not only likely to help the concerns themselves to a material extent but also to increase of wealth and the prosperity of the people in whose midst they come into being.

Riding the Wind.

By Harry Harper,

Author of "The Air Way," "The Steel Construction of Aeroplanes," etc.

To many of those interested in aviation from the point of view of the development of small cheap air machines for popular use, simple to handle and safe to fly, it is certainly good news that in several countries, including our own, important experiments are to be conducted this year with little winged craft of improved types, designed to be propelled through the air by the physical exertions of their occupants, and relying upon nothing whatever in the form of mechanical power.

It does not follow, of course, that practical success may attend these new experiments immediately. The whole problem is, admittedly, one of extreme technical difficulty. It may be, as a good many technicians declare, that even assuming the most remarkable progress one could imagine with stream-lined wingshapes, fuselages, and lightened construction, the dream of man-power flying in a practical form can never be realized, and that we shall be compelled to abandon, finally, our ambition of emulating the birds.

But at the same time, looking at the general position from our view point to-day, there is a peculiar fascination about new experiments in this particular field, and there is certainly no gainsaying the fact that a great deal more experimental work might be directed, quite profitably, to the technical questions involved in flapping-wing flight. It is true that a good many inventors have produced man-carrying machines of the ornithopter type; but none of this work has been carried far enough. Efforts have tended to be more or less haphazard. The need now is for really well-directed scientific researches, employing all the latest aeronautical data, to be made in various countries, and then for the general results obtained to be pooled on an international basis. It is in this sense, actually, that moves are being made.

Wind Riders.

Extremely interesting to those who have grown up with flying from its infancy are the opinions now expressed by some of the expert pilots of engineless gliders. In this respect, of course, unusual significance must attach to what is being said and done by those German "wind-riders" as they are picturesquely called, who have become so astonishingly proficient in soaring off from the top of a hill in one of the latest types of glider, and of remaining for hours aloft, climbing and wheeling in ascending air currents, and displaying a never-failing control over their small motorless machines. Some of these champions of gliding in its most modern form are now emphatic in their belief that the future of popular flying, from the point of view of the use of small aircraft which are cheap to buy and easy to operate, lies in the further development of machines which are engineless. The position, as they see it, has now come to be this. Strides which are technically most striking have been made, during the past few years, in the production of light-weight motorless craft having wings of such efficiency that, even when they are moving

through still air, without the assistance of any ascending currents, their gliding angle is so fine that they lose height very slowly indeed. Given such a machine as this, and assuming also an intimate knowledge of atmospheric conditions in the neighbourhood of a gliding hill, an expert rider of the wind can steer his gradually-descending craft into one after another of a series of ascending wind-trends: the result being that the height which the machine loses gradually under the pull of gravity as it glides forward can be made good repeatedly by the upward-thrusting influence of these rising wind-currents into which its steersman keeps directing it. Thus, though the machine itself must always show a tendency to lose height, the pilot counteracts this just as constantly by the succession of "lifts" he obtains from the rising currents. He can, in fact, as has been proved by recent German tests, remain in the air in the vicinity of the hill from which he has ascended for almost as long as he likes, defying the force of gravity by his dexterous use of these rising currents in the ocean of the air.

The Fly in the Amber.

But when it comes to endeavouring to make a cross-country journey for any appreciable distance in some craft which is motorless the conditions are very different. In the neighbourhood of his gliding hill the pilot knows exactly where ascending currents are to be found. He has them plotted on a map. But when he sets forth on some point-to-point aerial journey he may, just when he needs one badly to restore lost altitude, be unable to find any suitably ascending wind-trend; and this may mean, of course, that he is obliged to alight before he is within reach of the goal he has set himself. It is true that certain exceptionally clever German "wind-riders" have already accomplished flights of many miles across country in motorless craft. But such exceptions really only prove the rule; and this rule is that at the present time, no matter how skilled an operator may be, he cannot rely upon being able to complete any specific cross-country journey in an engineless air machine.

Copying the Birds.

It is this practical aspect of the problem which is to receive fresh study. The point which emerges is that the difference between maintaining or losing height, in such improved types of gliding machine as are now being developed, is, from the point of view of the application of any form of motive-power, a very small matter indeed; and this being so it is now proposed that, instead of employing a low-powered petrol engine to give the small application of energy required to maintain height in still air, the pilot in the machine should, by some combined movements of his arms and legs, actuate small moveable extensions at the tips of his sustaining-planes. The application of power in this fashion would, it is considered, bring man-power flying into line with the natural soaring of birds. The latter, when they are manœuvring in a favouring upward wind-trend, simply glide with their wings motionless, expending no energy at all. But when they are unable, just for the time being, to find any such rising current, they prevent themselves from losing altitude by an easy motion of their wings. Can man do the same with artificial wings? That is the question. Not long ago, before we had available wing-sections combining such a high factor of "lift" with such a small percentage of "drag", or resistance to their own forward movement, the answer would have been emphatically in the negative. But to-day aerial science is making such strides in the direction of stream-lining, and in the economy of motive power that many fundamental problems need to be viewed in a fresh light. That word "impossible" seems applicable no longer. We stand at the threshold of aerial wonders eclipsing anything achieved before and there is no avenue of research more intriguing than that connected with motorless or flapping-wing flight.

The aim is that a "wind-rider," probably lying prone in some tiny, engineless, finely stream-lined craft, should be launched into the air, mechanically, from a catapult device. Once aloft he would, by his physical operation of suitable mechanism, manœuvre himself by flapping flight until he could profit by an ascending current of air, and in this he would gain further altitude, resting for the time-being from his muscular exertions. Then, alternately flapping and gliding, just as birds do, he would embark on aerial journeys in which his progress would be partly man-driven and partly wind-driven. Such a form of flying, if it could be realized, should provide a capital sport as well as an exhilarating and inexpensive way of getting from point to point. The vista opened up would, indeed, prove almost illimitable, and experts now agree that experiments in this vital field should be as complete, and as conclusive as it is possible for aerial science to make them.

A competitor can cut prices, but when you sell personal service he is up against it.

Sugarcane Cultivation under the Krishnarajasagara.

By Sir Alfred Chatterton.

The problem which I propose to discuss in this note is what policy should be pursued to obtain the maximum economic advantage from the very large expenditure which has been incurred on and which will yet be incurred to complete this combined hydro-electric and irrigation project. The works are estimated to ultimately cost Rs. 641 lakhs, of which approximately Rs. 400 lakhs has already been expended involving interest charges which calculated at 5½ per cent amount to Rs. 24 lakhs per annum. The hydro-electric developments have been carried out and the capacity of the Sivasamudram Station has been increased by 36,000 horse-power. At this moment, I have not before me any information of recent date as to the extra revenue which is now earned by the Sivasamudram Installations, but it is estimated to ultimately amount to Rs. 30 lakhs and is probably now about two-thirds of that sum. The interest charges are not therefore a serious burden at the present time, but they will rapidly increase and after the sanctioned programme of work is completed they will be very heavy and it is necessary that the irrigation returns should as rapidly as possible be developed to meet them.

In July 1927, Government appointed a Committee to advise them as to the measures necessary for the development of irrigation under this reservoir and the valuable report submitted by that Committee was accepted by Government and the requisite orders passed giving administrative sanction to the recommendations contained therein.

In this report, the Committee stated that the water available for irrigation would be 35,718 million c.ft. or sufficient for an area of about 1,20,000 acres, assuming that in each year one-third of the land was under sugarcane with a duty of 2½ acres per million cubic feet; one-third under paddy with a duty of 4 acres per million cubic feet and one-third under garden crops with a duty of 10 acres per million cubic feet. This works out at an average of 4 acres of irrigation per million cubic feet, on the assumption that the areas under each kind of crop are equal. On this basis, 1,20,000 acres will require 30,000 million cubic feet of water and there is a margin of 5,718 million cubic feet or nearly 20 per cent to allow for contingencies and for possibly excessive cultivation of sugarcane. This is, I consider, a very reasonable and even somewhat conservative estimate of the duty that may be expected from the water and I do not in any way share the opinions of some who have thrown doubts on the possibility of realizing these estimates.

Near the conclusion of their report, the Committee stated "No pains should be spared to develop irrigation in accordance with the latest practices and with an eye to the highest returns. The Policy indicated in this report should be steadily pursued for at least 15 years from the date Government begin to give water for irrigation." From this I conclude that the Committee consider that 15 years will be necessary to bring the ultimate area under irrigation and one member taking a less favourable view in a separate note would extend the period to thirty years. The history of the development of irrigation in the Madras Presidency, especially under the Godaveri and Kistna systems, furnishes ample warrant for such views and I have but little doubt that unless special measures are taken there will be a comparatively slow expansion of irrigation and that the adoption of block systems with a triennial rotation of crops will tend further to extend the time. I am nevertheless in favour of the principle of the block system as being in the long run calculated to give the best return.

It appears to me however that this irrigation project affords an unprecedented opportunity for the adoption of a new policy which will carry the idea, the germ of which appears in the block system, to its complete development. The essential feature of the block system is a triennial rotation of crops to which the cultivator is made to conform in his own and in the general interest. One of these three crops is sugarcane, which is estimated to yield a return of Rs. 500 per acre, as compared with Rs. 80 for paddy and Rs. 50 for garden produce. It will be agreed that sugarcane is a capitalist crop and that to realize the large return given above will involve proportionately heavy cultivation expenses. To avoid controversy I will not suggest a definite figure. But that is not all when the crop is ripe it must be crushed and the resulting juice boiled down to jaggery by the cultivator or the canes sold to a mill for the manufacture of sugar. Years ago I worked out in Coimbatore that a pair of bullocks will

crush an acre of cane in three weeks and I formed the opinion, both there and later in Mysore, that the lack of cattle power was one of the reasons that restricted the area of cane cultivation.

I think we may assume that the cultivators under the lands commanded by the High Level Canal are mostly without resources and quite unable to find the capital necessary to engage in sugarcane cultivation. They may be able to borrow a little money but it is quite certain that without extraordinary measures to help them the development of sugarcane growing will be very slow. Moreover when cane is grown, there will be the difficulty of crushing the crop and when all obstacles are overcome, of the realizable profits a large portion will be absorbed in interest on advances.

I have for a long time held the view that India is not self-supporting in the matter of sugar because the cultivator of sugarcane has perforce also to be a manufacturer of *gur*. I do not think it is necessary now to elaborate this proposition but I would point out that the more intensive the cultivation of cane and the higher the percentage of land under this crop, the greater are the disadvantages under which the indigenous system labours. We are now contemplating 33 per cent of the cultivated area being under sugarcane and I agree with the dissentient member in his pessimistic outlook. But unlike him, I do not accept the situation as I think that it is extremely easy to provide remedies for all the difficulties which normally the cultivator will have to face if left to himself.

My proposal amounts to this—that Government should come to the aid of the cultivator and should provide him with financial assistance to grow sugarcane, that Government should take over his crop when it has been cut and that they should provide the machinery to crush it and work it up into a marketable product and that finally they should place the product on the market. If this is agreed to, the work should be taken in hand at once and preliminary arrangements made so that directly water is let into the canals, which, I understand, will be in 1931, a large area of sugarcane can be started. At this stage, it would be quite useless to discuss in detail how these operations can be carried out. As a matter of fact, there should be no difficulty about them and the details can be varied to suit local needs and will certainly be subject to modification as experience accumulates. It does however appear to me to be necessary to clearly indicate what financial responsibility Government will incur and what benefits will accrue to the cultivators and what return will be obtained by the State.

The proposal of the Committee accepted by Government amounts to this that under this irrigation system, the cultivators must agree to put one-third of their land under sugarcane or they will not get water. This is justifiable as without such a provision no adequate return can be obtained on the expenditure to provide the irrigation water. The cultivator runs no risk of not getting a market for his crop as India imports about 800,000 tons of sugar a year and on this import, there is a duty of 25 per cent. Experience shows that cane can be grown in Mysore and that the conditions, when water is available, are very favourable. There is therefore no more risk in growing sugarcane than any other crop. If Government take over the crop, they take over produce which can easily be sold at the current market prices and they will pay the cultivator for his crop at rates computed by a sliding scale depending on prevailing market rates. The investigations necessary to obtain an equitable sliding scale will not be easy as it will have to be based on the sucrose contents of the cane and one may reasonably anticipate that it will take time to get it to work smoothly. There is considerable experience on this matter available at Nelikuppam in the South Arcot District of the Madras Presidency and in the north of India, where a number of sugar manufacturing companies are at work.

All advances made to cultivators should be on a commercial basis and the rate of interest should be one per cent above the average bank rate. I assume for the sake of illustration that it will be necessary to advance the raiyat or cultivator a sum of Rs. 200 per acre of cane for cultivation expenses, for the purchase of seed cane and for manures. Ultimately with 40,000 acres under cane such advances would amount to Rs. 80 lakhs but it is important to remember that they will be floating advances, such as if necessary the Imperial Bank or the Bank of Mysore could make, and they will be secured by the fact that the crop when ready will be handed over to Government for conversion into jaggery or sugar. On the basis of Rs. 200 per acre and allowing a period of five years to bring the whole area under cultivation, the amount of finance to be granted will start with about Rs. 16 to Rs. 20 lakhs and will increase annually by that amount but the transactions of each year will be complete in a definite period as the cultivator liquidates his debt by handing over his crop. Only failure of the crop through negligence or unavoidable causes will lead to

default and it will be easy to provide an insurance rate to cover such contingencies.

To deal with the crop, I would, in the first instance, advise Government to instal five roller crushing mills driven by electric power or by oil or gas engines, each with an adequate battery of boiling pans. There is a great deal of experience available as to the working of such plants and they should be of a capacity to deal with about 200 acres of cane in the season. Roughly, I expect they will cost about Rs. 20,000 each or say Rs. 100 per acre. To cover the whole area of 40,000 acres with such plants would involve a permanent capital outlay of Rs. 40 lakhs. But before that area is reached, it is possible that these plants may in some tracts be superseded by large sugar mills and in that case the displaced jaggery plants can be moved elsewhere. The establishment of large sugar mills should be a subject for later consideration, but it may be assumed that the successful cultivation of cane, on a large scale and with a high degree of concentration, will render them inevitable. Whether they are to be Government Mills or set up by private agency need not now be discussed.

The Committee estimate the return from sugarcane at Rs. 500 per acre or at Rs. 2 crores from 40,000 acres and these figures, I accept, save that I think the evidence as to the existence of 40,000 acres of good sugarcane land is not convincing. It seems to me that it is necessary that a very careful survey of the area commanded should be made by a competent expert staff and unequivocal evidence obtained. That there is a large area I do not doubt but the actual extent and its classification into grades certainly requires urgent attention.

Under this scheme of working the sugarcane cultivation, the raiyat will be relieved of anxiety regarding finance. The local market for jaggery need not be flooded directly the crushing season is over as is usually the case when the raiyat crushes his own cane and there need not be those violent fluctuations in prices which usually occur. In addition the quality of jaggery can be fairly standardized and that in itself will be an advantage whilst the standard of quality may also be raised as the conditions under which manufacture will take place will be favourable to the production of a high quality.

The most important and novel feature of this scheme will be that the whole of the sale proceeds of the crop will pass through the hands of Government and will necessitate the provision of a very competent accounts department to deal with their distribution. The cultivator will be credited with the value of this produce and from that gross value will be deducted all advances made to him, during the previous year with the accrued interest charges, together with his total water-rate for the area irrigated under the block system. I do not accept the charges proposed by the Committee as equitable to Government, nor do I suggest what they should be, but I do suggest that of the unaided raiyat under the Deccan Canals can pay as much as Rs. 50 or Rs. 60 per acre, it will be equitable to charge a much higher rate than Rs. 15 per acre contemplated by the Committee.

It is proposed to recover part of the cost of the project by the levy 'of a contribution,' on the land irrigated averaging Rs. 100 per acre and to spread the period of payment over five years. This is in accordance with local custom and, I understand, will not be objected to but I venture to suggest that it is not sound policy. To levy the whole contribution in the five initial years is to levy it during the time when the cultivator requires all the capital he can command and during the period when it is desirable that he should be given every possible encouragement so that he may learn to appreciate the advantages of supervised cultivation. I would therefore suggest for consideration that the contribution be either dropped entirely and a much higher water-rate levied or that it be increased in amount and recovered over a long period of years. I have seen irrigated land increase from Rs. 100 per acre to Rs. 1,000 per acre and I am sure that in the case of this irrigation system, if worked on the lines I have proposed, the land values will increase in at least the same ratio. It is universally agreed now that unearned increments should be regarded as a legitimate source from which public revenue may be derived and it would, I think, be a somewhat short-sighted policy in this instance to follow ancient precedents.

I have not adequate data to prepare a financial forecast of the effect of these proposals. The results will depend on the prevailing prices for sugar and jaggery several years hence and though there is no certainty about them, it is hardly likely that they will be lower than at present. The benefits of this scheme should be shared by Government and by the cultivators and after the whole cost of working it has been debited to the annual income, any surplus profits might be distributed in some predetermined ratio. Merely for consideration, I suggest that since Government bears the financial burdens and thereby obtains unusually chief finance for the cultivator, the ratio should

be 60 per cent to Government and 40 per cent to the cultivators but a very detailed examination might lead to the adoption of some other ratio.

At the present moment, it appears to me undesirable to consider more than the general outline of these proposals which I have now submitted. If they are accepted as a guide to the policy to be pursued, it would then be desirable to appoint a special officer to consider them in detail and devise a working plan. I presume that in some form or other, they will be presented to the Legislative Assembly and that they will only be adopted with popular approval of them as a satisfactory solution of the problem before the Government.

It may not be inopportune to draw attention to the somewhat similar methods adopted in the Soudan under the great reservoir on one of the branches of the Nile to secure a rapid expansion of the irrigated cotton crop. Writing without references I think that in this case the Soudan Government have given concessions to a private company which has already financed the whole of the works necessary to deliver the water on to the land and its further assumption of responsibility for the conduct of the cultivation in accordance with the results of modern agricultural knowledge is a comparatively slight matter. Yet it is essential if anything like a reasonable return is to be obtained.

The Practical Value of Government Statistics.

By R. H. Coats,

Dominion Statistician, Canada.

When a manufacturer receives from the Dominion Bureau of Statistics a set of blank forms with a request that they be duly completed and returned to Ottawa within twenty-one days, his first temptation is to denounce the whole business not only as a nuisance but as an expense to him. Yet when the figures have been compiled and published the same manufacturer may be the first to reap the benefit. Naturally, when a business-man makes money out of government statistics he does not always tell his next door neighbour. It is simpler and more profitable to continue criticism of the Government and its officials.

Occasionally, however, an incident of other purport comes to light. The other day a manufacturer, enjoying a national reputation, sent fifty cents to the Government Distribution Office at Ottawa for a statistical return. Almost immediately he found within its covers certain figures that indicated a line of trade that he had not cultivated. At his suggestion his salesmen called on selected houses that used the product in question. To their surprise they obtained a sufficiently large order to justify the installation of a new $8,000 machine for the manufacture in Canada of this particular product, with activity for 8 months in sight—a good return for the fifty cents spent on a Government publication.

A short time ago certain business-men in Ontario thought it would be possible to substitute a Canadian mineral product for one that has always been imported in considerable quantities. Two problems confronted them. The first was to seek out the consuming industries; the second was to determine whether the Canadian product could be substituted for the imported material. They made some inquiries among the trade but the results were not very enlightening. They appealed to the Bureau of Statistics. A special compilation carried out by the latter's officials revealed the facts. The entire market was indicated; it was found that the Canadian product in question could not be used in substitution for the imported material and the building of the proposed plants was not carried out for this reason. But as a by-product of this investigation it was also found that another material of Canadian origin could be used and as a result two new plants were established for its production. In the one case the group of financiers were saved the danger of contemplating a plant that could not have been operated on a profitable basis; in the other case capital was directed into a new line of production.

A business-man wanted a list of concerns operating in a certain industry. Inquiry elicited the information that the collection of such a list would cost him a material expenditure. By chance he picked up a report issued by the Bureau of Statistics and found the names and addresses of all the concerns he wanted in an appendix.

A long story could be made about the money that has been saved through the co-operation of statistical effort since the establishment of the Bureau of Statistics at Ottawa but perhaps the few instances mentioned above provide a satisfactory answer to the question "Do Statistics pay?"

A Survey of Mysore Industries—I.

By C. Ranganatha Rao Sahib, B.A., B.L.,

Director of Industries, Mysore State.

I propose in this paper to survey the present condition of the industries in Mysore in the light afforded by the external rail-borne trade of the State. The Department of Industries and Commerce have been publishing accurate reports of the rail-borne trade of the State for the last 15 years, and the statistics of trade available for this prolonged period furnish an authoritative index of the course of industries. The late economist Alfred Marshall has remarked that "the main courses of trade are governed by the relations between the surrounding industries, in the same way as water-courses are governed by the contours of the hills, a map showing the contours of the leading industries of the world would show what must be the main courses of trade." He has also stated that "a country's foreign trade is something more than a number of dealings between individuals at home and abroad; it is the *outcome of the relations in which the industries* that belong to her, that are a part of her life and embody much of her character, stand to the industries of other countries."

The present time seems opportune to undertake a study such as is proposed in the present survey. Experts are of opinion that the year 1927-28 *affords clear indications that the effects* of the post-war trade depression are at last being dissipated (*vide* report of Thomas Ainscough, His Majesty's Trade Commissioner on "The Trade in India" for 1927-28). This is very clearly borne out in the *Rail-borne Trade of Mysore*. The external trade of the State during that year was the highest on record both as regards volume and as regards value. The total weight of the trade was about 92.30 lakhs of maunds valued at 12.02 crores of rupees. The weight of the trade in 1913-14, *i.e.*, 15 years ago, was 58¼ lakhs of maunds valued at 5.47 crores of rupees. It is true that the value of the export trade is much inflated owing to the rise in price since 1913-14. The general level of prices at present is about 50 per cent in excess of the level of prices which prevailed in 1913-14. Allowing for this increase in value, the trade for the year 1927-28 is in excess of the trade for the pre-war year by 59 per cent in volume and 46 per cent in value.

Alfred Marshall has remarked that "on the whole and in the absence of all knowledge as to the causes at work, it is reasonable to suppose that an ascertained increase in a country's foreign trade reflects an increase in her general prosperity." It is obvious however that a mere increase in trade cannot prove that the productive industries of the country are expanding. It may be quite possible that the trade may have increased because of the decadence of a local industry or *vice versa*. I propose to make, in the following pages, a brief reference to some of the chief articles of trade which clearly show that the changes in the course of trade are due in some instances to the growth of our industries and in others to their decadence. Some changes indicate a progressive utilization of our opportunities, while others establish the poverty of our resources.

One of the most interesting instances of the change in the course of the trade indicating the development of local resources is the trade in coal. During the year 1913-14 the trade in *coal amounted to* 34⅓ *lakhs of maunds* valued at Rs. 23¾ lakhs. The import in coal formed in volume about 31 per cent of the total import trade. During the last year, however, the import trade in coal was only 22¼ lakhs of maunds, valued at about 17½ lakhs. The trade in coal formed only about 20 per cent of the total import trade as against 31 per cent 15 years ago. The imports of coal are usually held to be an index of industrial development, In the case of Mysore, however, the reverse is the truth, for the decrease in imports is mainly due to the larger utilization of electric energy as a source of power. The bulk of the imports in 1913-14, *viz.*, 22⅔ lakhs of maunds, was for use in the Kolar mines. During the last year however the imports to the Kolar mines amounted to only 4¾ lakhs of maunds. The requirements of the Railways for coal have naturally increased during these years. They were about 10⅓ lakhs of maunds in 1913-14 and rose to about 14 lakhs of maunds during the last year. The coal required by the general public in places where electric power is not available has also increased. It was about 1¼ lakhs of maunds in 1913-14 and was slightly in excess of 4⅓ lakhs of maunds during the last year. The decrease in the consumption of coal in the Kolar mines is mainly due to the fact that electric power generated at Sivasamudram now operates the mining machinery instead of coal imported from Northern India.

Apart from supplying power to the Gold Mines the Hydro-Electric Station at Sivasamudram supplies power to numerous industrial installations in Bangalore, Mysore and Kolar Gold Fields. The total number of installations in 1927-28 was 471. It may be interesting to know that the maximum loads for power at the generating station during the year 1927-28 was 17,860 H.-P. for the Gold Mining Companies, 11,660 H.-P. for industrial concerns and 4,470 P.-P. for street and bungalow lighting.

The course of trade in textiles during the last 15 years illustrates in a very remarkable manner the progress of these basic industries in the State. In view of the expansion of work in the old cotton mills and the addition of two new mills there is a large increase in the exports of Indian twist and yarn and decrease in the imports of this material. There is also a very large increase in the export of Indian piece-goods, which is however not accompanied with any corresponding decrease in the import of cloth. The total imports of Indian yarn in 1913-14 amounted to 21½ thousand maunds valued at Rs. 9¾ lakhs and the exports of this yarn was about 17½ thousand maunds valued at 17½ lakhs. During the year 1927-28, however, the imports of Indian twist had declined to about 9½ thousand maunds, valued at Rs. 5½ lakhs; but the exports had increased to 59,200 maunds, valued at nearly 35 lakhs. There are at present 1,32,340 spindles in the mills working in the State. The trade in piece-goods also shows a large increase in exports. This was about 9,000 maunds valued at Rs. 5 lakhs in 1913-14 and has risen to 57,600 maunds valued at Rs. 82¾ lakhs in 1927-28. The import of Indian piece-goods has also increased from 74,000 maunds valued at Rs. 40¾ lakhs to about 117½ thousand maunds valued at Rs. 168 lakhs. The increase in the import trade in cloth is due to the improvement in the general economic conditions. I give below a brief statement showing the net consumption of cloth per head per annum in the State during the last three years and in 1913-14. The figures for all India are also given as far as they are available for purposes of comparison.

Consumption per capita.

Year.	Mill made and imported cloth in Yards. All India.	Mysore	Produced in Hand Looms. All India.	Mysore	Total. All India.	Total. Mysore
	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.
1913-14 ..	12.9	7.5	3.4	3.5	16.3	11.0
1925-26 ..	9.3	6.3	3.7	4.1	13.0	10.4
1926-27 ..	—	7.1	—	3.2	—	10.3
1927-28 ..	—	8.5	—	4.2	—	12.7

The above statement also shows the proportion of cloth furnished per head per annum by the handlooms working in the State.

Attention may be drawn to the decrease in the *per capita* consumption of cloth which followed as a result of the war. This was stemmed only during the last year when the *per capita* consumption in Mysore increased to 12.7 yards as against 11 yards in 1913-14.

The trade in wool also furnishes evidence of the development of industrial enterprise. There is a large increase in the imports of raw wool. From about 23,400 maunds valued at Rs. 4¾ lakhs they have risen to 42,500 maunds valued at nearly Rs. 10 lakhs. The total output of the woollen goods in the woollen mills in the State amounted to over 30½ lakhs of lbs. last year valued roughly at about 18 lakhs of rupees. The total value of the export of woollen products in 1913-14 was about 10½ lakhs. During the last year it was nearly Rs. 40 lakhs.

The statistics of the trade in silk exhibit both the land expansion in sericulture within the last 15 years as well as the danger which is now threatening the industry. At the commencement of the war the total exports of the raw silk were about 3,600 maunds valued at about 21½ lakhs. During the last year the exports of raw silk from the State were nearly 8,200 maunds valued at Rs. 58 lakhs. The exports of raw silk have increased by over 125 per cent within the last 15 years. The imports of raw silk were negligible being less than Rs. 1¼ lakhs in value 15 years ago. During the last year, however, the imports were valued at about 19.60 lakhs. The seriousness of the situation will be evident by the fact that the imports have increased very rapidly during the last few years as observed below:—

Year.		Weight in Mds.	Value in Rs.
1924-25 ..	..	146	1,12,000
1925-26 ..	..	473	3,14,000
1926-27 ..	..	1,780	13,32,000
1927-28 ..	..	2,742	19,60,000

The statistics more than clearly establish that the vigorous propaganda that is now being made to. The popularization of the improved reeling apparatus, *viz.*, Mysore Domestic Basins, has been undertaken not a day too soon. The silk reeled from the improved basins is now finding a ready market in Bombay and in Northern India. Unless better methods of reeling silk are introduced very rapidly, the silk industry in Mysore is bound to suffer the sale which seems to have overtaken it in Bengal.

There has been a large increase both in the imports and exports of silk piece-goods within

recent years. The exports of silk piece-goods valued at about 7½ lakhs of rupees last year bear evidence to the enterprise of the power-loom factories established as a result of the example afforded by the Government Weaving Institute. The imports of silk piece-goods have also increased largely, and now amount to over Rs. 23 lakhs.

Well-reeled Mysore silk is capable of producing as good silk fabrics as are now being imported into India. Recently I had two pieces of silk cloth woven in Europe from silk reeled in Mysore. The samples were eagerly examined by the merchants doing business in imported silks, and I was assured if such cloths could be turned out locally I may be certain of obtaining as large a market as I can manage to supply. I am in communication with some of the manufacturers of textile machinery in Switzerland and hope to instal improved looms in the Government Weaving Institute at an early date. The experiments in the manufacture of high grade fabrics will be carried on with the assistance of a skilled Weaving Master imported from abroad. The looms will be operated with electric power. If the experiments should prove successful as our preliminary investigations give us reason to hope, the availability of electric energy in all the chief centres of our silk-producing areas opens out a large prospect of development in the silk weaving industry in Mysore.

Report of the Fawcett Committee.

The Report of the Bombay Strike Enquiry Committee appointed by Government in a resolution dated the 13th of October 1928 has been presented to Government and is now being published. The Committee consisted of *the Honourable Sir Charles Fawcett*, I.C.S., Chairman, Mr. M. P. Khareghat, I.C.S. (Retd.), and Mr. B. S. Kamat, with Mr. N. A. Mehrban, Investigator, Labour Office, as Secretary. The terms of reference to the Committee were :—

(*a*) Whether the amended scheme of a standardized schedule of rates and of a standardized muster prepared by the Millowners' Association, and also the scheme prepared by the Strike Committee is fair and reasonable ;

(*b*) Whether the seventeen demands advanced by the Strike Committee are fair and reasonable and to what extent, if any, they should be met ;

(*c*) Whether the Standing Orders for operatives as amended and presented by the Millowners' Association on the 4th of October 1928 are fair and reasonable.

The Report of the Committee extends to 260 pages and includes 16 appendices. The Committee state that the general result of their enquiry is "that we regard the proposals of the Millowners' Association (*a*) for Standardization of the wages, duties and numbers of operatives in a mill, and (*b*) for Standing Orders for the operatives regarding the conditions of their employment, as being in the main fair and reasonable." As regards the seventeen demands, ten of them are held to be fair and reasonable and all of them, with two exceptions, were eventually conceded by the Millowners' Association. Two have been held to be unfair and unreasonable, and the remaining three have been held to be partly fair and reasonable and partly not.

On the question of the wage-cut, proposed by the Millowners' Association, of 7½ per cent in weavers' wages, the Committee state "on the whole we are of opinion that the weight of arguments is in favour of the proposed wage-cut being justifiable, but we think there is an overriding consideration against the Millowners' Association pressing the proposal any further. This is the necessity for the full co-operation of the labour leaders in working the new Standardization Scheme. Without such co-operation it will be difficult, if not impossible, to introduce the scheme or revise it after a short period of trial, as contemplated. The agreement arrived at about most parts of the scheme and about the constitution of the Joint Committee is a step forward of a satisfactory kind. It will be disappointing if the prospect of future co-operation in introducing and working the scheme is blighted by conflict over this question of a wage cut, and we think the Association should agree to drop it, if the labour leaders in their turn undertake to give real co operation in trying to make the Standardization Scheme work properly. We do not of course mean that they should thereby bind themselves to agree to everything that may be proposed by the Mill representatives ; what we have in mind is co-operation in the same manner as Trade Unions have co-operated in working the "Uniform Lists" in Lancashire. If this object

is attained, we think the industry should benefit much more than by the annual saving that it is expected to get from the wage-cut. It is not as if the Millowners will get no saving from the adoption of the Standardization Scheme: on the contrary the evidence before us showed that many mills would make some savings by reduction in the number of employees, etc., but there is a still stronger consideration. It may be a platitude to say that what is more likely to help to put the industry on its feet again is "Industrial Peace", but we think it none the less true and important for all that. Accordingly we are of opinion that although there is justification for the proposed cut, under present circumstances it would be in the interests of both parties for it to be dropped, on the understanding about Labour co-operation that we have mentioned. We are encouraged to think that such co-operation may be obtained in view of the opinion which Mr. Bakhale on behalf of the Joint Strike Committee expressed in the course of his summing up on the 13th February 1929 that, if the cut is removed, and if the Standardization Scheme is based upon the average wages obtaining at the present time in Bombay, those who have influence with the workers would do their level best to have the principle of standardization accepted and persuade the workers not to go on strike as far as possible. We were informed by the Millowners' Association that they propose to introduce the scheme in October next; and it is to be hoped that the Labour leaders will meanwhile try to explain the main points of the Scheme to the workers and to persuade them to give it at any rate a trial before rushing into hostilities. The scheme will of course result in some workers getting less than they do at present. On the other hand some others will benefit; and if the value of uniformity of rates of wages is properly explained to the workers, it should result in acceptance of lower rates by those affected for the benefit of the operatives as a whole, just as happened in the case of the English weavers.

Dealing with the Standardization Scheme the Committee points out that the main scheme put forward by the Millowners' Association was considerably modified as a result of meetings that took place between Sub-Committees of the Association and the Joint Strike Committee in January and February of this year, and this modified scheme has been accepted by the Joint Strike Committee, subject to some general objections and some qualifications. This scheme in its final form is printed as an appendix to the report and the Committee hold that the scheme as modified with some concessions in certain occupations and 'allowances' for weavers is fair and reasonable. But this is subject to such revision of the part of the scheme that regulates the wages of weavers as may be necessary to prevent a cut of 7½ per cent in their wages if the Committee's recommendations on this point (referred to above) are adopted.

The Committee summarize the advantages of the scheme as follows:—

(1) The method adopted is that of fixing piece-prices by reference to a standard, with provisions for the extras payable and deductions to be made if any variation is made from this standard. A list framed on these lines can readily be applied not alone to the fixing of prices in relation to articles and processes existing at the time of the compilation of the list and specifically provided for in its construction, but also to the determination of piece-wages in relation to new articles and processes which may from time to time be introduced.

(2) The scheme aims at providing automatically for an operative getting the benefit of any increased effort on his part, *e.g.*, an increase in the number of spindles he looks after or in the rate of speed of the machinery. This tends to make both the mills and the operatives try to increase their efficiency.

(3) Indirect deductions from wages such as were complained of at the time of the general strike will be almost entirely prevented.

(4) Subject to exceptions and special cases, an exact uniformity of the rate of remuneration is maintained between man and man and mill and mill, so that competition between mills, and disputes due to higher or lower wages being given in different mills for the same quantity and quality of work, are practically done away with.

(5) While the element of error cannot be totally eliminated, it has been found in Lancashire to be reduced to small proportions.

(6) The scheme does not hinder or prevent an increase or reduction in wages due to rise or fall in prices; the usual method in Lancashire is not to alter the list but to add or deduct a certain percentage on or off all piece-work prices, and the same could be done here.

(7) The scheme has the desirable element of welcoming the co-operation of labour representatives which, it may be hoped, will, as in Lancashire, lead to reduction in the number of serious disputes and consequent strikes or lock-outs.

The Committee therefore think that standardization of wages is desirable, that the Millowners were well advised to follow the lines of

the Lancashire lists in drawing up their scheme, and that the basis of the proposed standardization is a suitable one. It will afford a great improvement on the present conditions under which the worker sometimes does not obtain commensurate or even any increase of remuneration for extra effort or skill. But the Committee also point out that the scheme itself reserves various matters for subsequent standardization, and it is proposed to revise it after a few months' trial. With this object, and that of avoiding strikes and lock-outs, machinery has been provided by the "Mediation Rules" agreed to by both sides for setting up Joint Committees to enquire into disputes arising under the scheme and to endeavour to arrange for settlement. The Committee draws attention to the fact that no fewer than 70 strikes took place in the textile industry in Bombay City during the proceedings of the Committee. "It is obvious," says the Report, "that this state of things is prejudicial to the well-being of the industry, including that of the workers themselves, and that its continuance, when combined with the high level of wages in Bombay, may result in increasing the existing tendency of Millowners to establish mills up-country where labour is cheaper and works more steadily. The present greater uncertainty as to when a lightning strike may take place in a mill necessarily disables its management in many ways, *e.g.*, in accepting large contracts, and the workers themselves will surely benefit by progress towards the stage now generally reached in Europe, where discussion and an attempt at settlement between the Workers' and the Employers' organizations are almost necessary preludes to a strike or a lock-out."

In connection with the Standardization Scheme the Committee recommend that the textile trade unions should combine to arrange for the assistance of an expert technical adviser in dealing with disputes arising under the scheme.

That part of the Standardization Scheme which is called the "Rational" or "Efficiency" system, and which aims at reducing the number of operatives employed in mills, while raising their wages and providing conditions favourable for the extra efficiency expected from the operatives, is also held to be fair and reasonable. In this connection the Committee point out that the proposed reduction of operatives under the Standardization Scheme proper will be about 1,500, mostly dofferboys and tarwallas in the Spinning Department. The number of operatives that will be displaced by a general adoption of the 'Rational' or 'Efficiency' scheme will be very much larger. This of course will give rise to some distress among the men and women discharged, though it is probably an exaggeration to speak of starvation, as has been done by the labour representatives. "But the fear of unemployment contributed largely to the strike and one has only to put oneself in the place of a worker who is threatened with loss of employment to realize that it is a natural feeling. An entire disregard of the suffering entailed by loss of employment is out of place, and has caused much bitterness on the side of labour." The Committee considers that it is in the interests of the Millowners to take some steps to mitigate hardships entailed in the introduction of the Scheme and thus lessen the opposition to it or at any rate any reasonable cause for bitterness. The Committee therefore make certain recommendations in this respect. They consider that they are not in a position to estimate accurately the volume of eventual unemployment which may follow if "Rationalization" proceeds gradually as it suggests; neither is it easy, in a country where unskilled operatives are mostly agricultural workers and can resort to agriculture, to gauge real unemployment, in the sense in which the term is understood in industrial countries. In the Sassoon group of nine mills a total of about 5,100 men were retrenched from a muster of approximately 27,000 as a result of the introduction of the efficiency system during the last three years. But this does not necessarily mean that everyone out of the 5,100 men has remained on the unemployment list, although it must be recognized that there must have been some hardship caused to a portion of them, particularly the skilled workers, during the waiting period before they found some employment. "It is to meet such cases, and with a view to avoid delay in the settlement of this question pending the Report of the forthcoming Royal Commission on Labour and any action thereon by the State," says the Report, "that we make, though not without considerable diffidence, the following suggestions for certain tentative measures for the consideration of the Millowners and the Trade Union leaders:—

(1) The Millowners should set up some machinery for taking note of all cases where workers are discharged on account of reduction of staff and help them as far as possible to get suitable employment either in some other mill or in some other industry.

(2) The Millowners' Association should consider the feasibility of a scheme for the payment of a gratuity to a worker, which may

amount to, say four weeks' or six weeks' wages according to the length of service, payable in suitable cases of discharged employees who may need help during the waiting period while they are seeking employment. With this view the Committee suggest the formation of an "Out-of-Work Donation Fund" on a voluntary basis, to be created by a system of setting aside a contribution by the Millowners of one anna per operative per month, to which fund the operatives through their representatives should be invited to contribute one anna or at least a half-anna per head per month. As there are about 150,000 operatives in the textile trade in Bombay, we expect this will yield on the one anna basis about Rs. 18,750 per month, or in the case of the half anna basis about Rs. 14,000 per month. The Committee have reason to believe that such a small contribution will not be felt a burden in the case of the workers, especially by the weavers, whose wages are about Rs. 50 per month. This fund could be administered in consultation with the Labour leaders through the Joint Committee to be set up, or through a separate Committee if necessary for this special purpose. In the case of the Millowners, this contribution will involve a burden of about Rs. 125 on an average per mill per month, and such a small addition to the monthly wages bill of each mill will be a wise investment and a good price for the eventual prosperity and improvement of the trade. A deliberate adoption of a system that will lead to considerable unemployment makes it reasonable that the persons adopting it should do something to give financial help to the discharged worker in the manner suggested.

(3) Care should be taken by the Millowners to see that the scheme is introduced gradually as regards the reduction of staff so that the consequent unemployment may be spread over a period of time and not caused suddenly.

(4) Pending the full introduction of the scheme, a mill might follow what is a common practice in the reeling and winding departments, *viz.*, employ more hands than are required so that the workers, who do not do a full day's work, get reduced wages.

The above suggestions are intended to be mainly preliminary to any large extension of the "Efficiency" system likely to result in a considerable amount of unemployment.

In discussing the proposed wage-cut the Committee make the suggestion that possible economies in management might be effected by an amalgamation of mills such as recently took place in Lancashire, or by a less extensive scheme for a combination to regulate the production of certain classes of goods and their export and sale. On the other hand, the Committee have rejected the contention that the wage-cut is unjustifiable because all possible economies in management have not been effected, or because the Millowners failed to make proper provision in boom times for a future depression in the industry such as now exists. After a survey of statistical and other information the Committee hold that while there has been some improvement in the condition of the mill industry during the years 1926-27 and 1927-28, and the prospect is more hopeful than it was in the antecedent period, the depression in the industry is still undoubtedly prevalent.

On the question of weavers' wages the Committee state that there are grounds for saying that the rise in the weavers' wage since 1914 is much higher than the rise in the cost of living and that the weavers' wages have arisen in a higher proportion—at least 10 per cent—than those of other male operatives. But objections can be urged against making a cut in view of the fact that their wages have remained at the same level for nearly eight years and the fall in the cost of living has remained substantially at the present level since the beginning of 1923. The disparity between the weavers' wages and spinners' wages exists in some other countries and is even higher in some places in India. While such a disparity is consonant with the extra skill required of a weaver, its percentage increase is higher than that existing in most countries and it can therefore be said to be excessive.

The Committee have discussed at length the standing orders put forward by the Millowners' Association and made various amendments thereto. The most important of the standing orders as now amended are as follows:—

Provision is made for a regular system of granting leave and while the present hours of work, *viz.*, from 7 A. M. to 12 NOON and 1 P. M. to 6 P. M. are retained they may be modified with the approval of the Factory Inspector and the consent of the operatives or their representatives so as to allow of a morning recess in addition to the mid-day one.

One of the most important of the standing orders refers to the question of "playing-off" and this was considered by the Committee at some length. The Committee proposed a standing order on this point.

"The Company may at any time or times and

(*a*) for any period or periods at their discretion in the event of a strike, fire, catastrophe, epidemic or other emergency rendering it necessary or advisable to do so, and

(*b*) for a period not exceeding two days in the event of the state of the trade rendering it necessary to do so, stop any machine or machines, department or departments. The operatives employed on those machines or in those departments will be "played off", *i.e.*, temporarily stopped without notice and without compensation in lieu of notice, provided that an employee "played off" for a period longer than seven days may leave the Company's service on intimation of his intention to do so without any further notice. The employees so "played off" are not to be considered as dismissed from service, but are temporarily unemployed and will not be entitled to wages during such unemployment, except to the extent mentioned in Order 13-A. Such employees will be given the first chance of work again on the resumption of work on such machines or departments.

In the event of a stoppage of any machine or department under Order 13 during working hours, the operatives affected shall be informed, as soon as practicable, when work will be resumed and whether they are to remain or leave the mill. The period of detention in the mill shall not ordinarily exceed one hour after the commencement of the stoppage. If the period of detention does not exceed one hour, operatives so detained shall not be paid for the period of detention. If the period of detention in the mill exceeds one hour, operatives so detained shall be entitled to receive wages for the whole of the time during which they are detained in the mill as a result of the stoppage. In the case of piece-workers, the average daily earnings for the previous month shall be taken to be the wages for 10 hours."

Rules with regard to notice are as follows:—

"The service of any operative may be terminated by 14 days' notice or by payment of 13 days' wages in lieu of notice. If he draws wages on a piece-rate basis, the 13 days' wages shall be computed on the average daily earnings of such operative for the previous calendar month.

Any operative desirous of leaving the Company's service shall give 14 days' notice to the Head of the Department concerned. The wages due to such an operative must, if possible, be paid on the day the notice expires and in any case within three days after the expiry of the notice. If any permanent operative leaves without notice, he shall be liable to forfeit by way of liquidated damages at the discretion of the Manager the whole or part of the wages due to him for the 14 days immediately prior to his so leaving, provided that no such order of forfeiture shall be passed without giving the operative an opportunity of being heard, if he is present or his attendance can be procured without undue difficulty."

Another important rule proposed by the Committee is that the mill shall not be entitled to debit a weaver's wages with the cost of cloth damaged by his negligence unless he elects to take it over on those terms. Otherwise the Company may deduct from his wages an amount corresponding to the estimated loss caused to it by such negligence, provided that, if the proposed deduction exceeds a sum to be settled hereafter, or the weaver disputes the damage being due to his negligence, the deduction shall not be made by an officer of the Company lower in rank than an Assistant Weaving Master. If the weaver disputes his liability there should be a joint examination of the damaged cloth by a representative of the mill and a representative of the weavers. The latter may be an official of a registered trade union. If they agree the Manager shall accept their decision. If they disagree and there is no independent person to whom the Manager and the weaver's representative agree to refer the dispute, the Manager shall decide what amount shall be deducted from the weaver's wages.

The Committee does not support the abolition of fines and point out that the Legislature is considering this matter. Striking work without notice or inciting others to do so can rightly be treated as misconduct rendering an operative liable to dismissal. The total amount of fines shall in no case exceed two per cent of the operative's total earnings for that month and all fines imposed will be credited to a Welfare Fund and utilized for such benefit or benefits to the operatives as the Company may determine. The Committee consider that the Standing Orders should not be rescinded or altered unless at least two months' clear notice has been posted up in the vernacular and objections or suggestions put forward by the operatives or their representatives within one month after the posting up of the notice have been considered by the Company. The Millowners' Association must also signify its assent in writing to the proposal and the alterations will not be given effect to until after fourteen days' notice has been given to the workers.

As regards the 17 demands the Committee state that they would not be justified in importing the principle of a minimum wage to the

extent demanded, *viz.*, the fixing of a definite standard of Rs. 30 below which the wages of no mill-operative in Bombay should fall but should confine themselves to seeing that there was no diminution in the wages of operatives who have been hitherto getting a low pay, and that relief is given in those cases where they were unduly low. The principle of equality of pay for males and females cannot properly be applied in this enquiry, and the Committee would not be justified in going beyond seeing that the lowest pay of a woman under the Standardization Scheme is sufficient to enable her to maintain herself without dependants. The Committee favour the proposal to consolidate the existing high prices allowance with the original wages, subject to the understanding that this will not affect any prospective revision of wages according to the cost of living.

In conclusion, the Committee state "We have endeavoured to deal comprehensively, and at the same time concisely, with all the wide points that are involved in the questions referred to us for opinion, but we are conscious that we may have failed to notice in our report some of the arguments raised before us. It would, however, have made it unduly long to deal with everything that was discussed at our sittings, and we believe we have dealt with all the important points. We hope our report will be of utility, not only to the Millowners and the workers and their representatives, but also to Government and the public in aiding them to form a proper opinion upon the disputes which led to this Enquiry. We think we can claim that both sides were given ample opportunities to place their full cases before us; and even if the Enquiry serves no other useful purpose, it has resulted in the two sides getting nearer an agreement than they were in October 1928."

The price of the report is 13 annas and copies may be obtained from the Government Book Depot, Charni Road Gardens.

British Trade with India.

By "Scrutator".

For the British manufacturer and shipper the chief interest of the "Review of the Trade of India in 1927-28" by Mr. Meek, Director-General of Commercial Intelligence, lies in the details given of changes in the direction of oversea trade. The outstanding fact is that while the United Kingdom now purchases one-fourth of India's total shipments, compared with 23.4 per cent in the last pre-war year, her proportion of imports has declined in the same period from 64.1 to 47.7 per cent of the total.

It is true that the United Kingdom stands almost alone in the list in supplying India with commodities to a value far in excess of those received from India. But whereas the excess measured in value was Rs. 59 crores in the last pre-war year it was in the year under review on a much larger turnover no more than Rs. 37 crores. There was a decline of Rs. 8 crores from the excess of the previous 12 months owing, first, to the good demand which India's staple articles enjoyed, and, second, to the drop in the prices of the principal imported articles.

In a number of important trades the British percentage of the total shipments to India has fallen heavily, since the outbreak of the War brought a break-up of the old conditions. The total value of cotton manufactures shipped to India is not far short of what it was in 1913-14 for though quantities have declined with the extension of Indian manufacturing production prices have risen. In these 14 years the United Kingdom share has fallen from rather more than nine-tenths of the total to 72.1 per cent. Continental countries have at most held their own, and Germany has little more than a fourth of the 2.1 per cent of pre-war days. The transfer has been to Japan, for her share has grown from 1.8 to 18.1 per cent. In the much smaller trade of silk manufactures, however, Japan has not quite kept up the 46.8 per cent she had before the war. The British share has declined from 9 to 2.4 per cent, while China now has 36.3 per cent., compared with little more than one-fifth of the trade 14 years ago.

Heavy Trades.

The expansion of the trade in iron and steel, side by side with the development of the protected Indian industry, has left the United Kingdom still maintaining her predominance. Her share is 67.7 per cent compared with 69.9 in 1914-15, while the German contribution has fallen from 14.5 to 5.3 per cent. The Continental country which has made most progress is Belgium, the increase being from 11.5 to 17.9 per cent.

In railway plant the United Kingdom had almost a monopoly before the War, her only serious competitors being Germany and Austria, which between them took about 6 per cent of the orders. The British share is now 77.9 per

cent the loss being mainly to Belgium which from small beginnings, now has about one-eighth of the total shipments. Germany and Austria stand very much where they did, and the United States has become a competitor with 2.2 per cent. In machinery the United Kingdom share has fallen from just under nine-tenths to 78.6 per cent. while the American share has trebled to close on one-tenth of the total. The German 6.6 per cent represents 1 per cent increase, and Belgium has entered the lists with 1.8 per cent share.

THE DEMAND FOR MOTORS.

Before the War Britain had 71.3 per cent of the trade in motor cars, motor-cycles, etc.; the United States taking second place with 15.1 per cent.. The market has more than quadrupled in value in the meantime, and it is a matter for satisfaction that the British trade has been making steady recovery from a heavy setback since the duty on motor cars and motor-cycles was reduced from 30 to 20 per cent and on pneumatic tyres and tubes from 30 to 15 per cent. Last year the number of cars imported rose by 15 per cent, and owing to temporary suspension of manufacture the Ford car receded into the background. The gap in the supply was filled by increased imports of cars of competing firms in the United States and of British light cars.

In preceding years Canada had occupied the foremost position in the import trade, as nearly all the Ford cars shipped to India were manufactured in that country. In the year under review the premier share in the trade went to the United States of America. Cars imported from that country numbered over 6,000; but the United Kingdom strengthened her position and supplied 3,600 cars.

Britain is not obtaining an adequate share of the rapidly increasing demand for motor-omnibuses; some 86 per cent of the total trade in lorries and omnibuses represented chassis, and the supplies were mostly from Canada and the U.S.A. Mr. Meek writes that British manufacturers of commercial chassis experience great difficulty in pushing their sales owing to the very low and attractive prices offered by their Canadian and American competitors. Small initial outlay appeals to the average omnibus owner, as he has no large capital to invest in either first costs or the maintenance of a repair organization. Mr. Meek states that India's roads and bridges call for a small vehicle, while the exports from the United Kingdom consist predominantly of heavy types unsuitable for up-country work.

To the hardware imports the United Kingdom contributes just under two-fifths, compared with 57.2 per cent before the war. The loss is mainly to Germany which now has 30.7 per cent against 18.2 per cent before the war. Imports of metal lamps reached the extraordinary figure of 6,268,000. Owing to keen German competition in this line, the American share in the trade dropped from 27 to 18 per cent, while German supplies went up from 62 to 73 per cent. The remainder came mostly from Austria and Czechoslovakia. Great Britain had a long lead in agricultural implements and safes and strong boxes, and her share of the total hardware trade was 3 per cent higher than in the previous year.

In the paper trade the United Kingdom had a 56 per cent proportion before the war, compared with 36.5 per cent last year. The total imports of printing paper reached 26,900 tons. Norway was the largest single supplier, with 7,800 tons, and was followed by the United Kingdom, with 5,100 tons. This country is the most important source of supply of writing paper and envelopes, and last year shipped 3,800 tons. She tends about 10 per cent of the packing paper which reaches India.

GERMANY'S ORDERS FOR CHEMICALS.

Great Britain had three-fourths of the trade in chemicals before the war, but there has been a progressive decline in recent years and our share is now 55.4 per cent. Germany, which supplied 12.4 per cent in 1913–14, now ships 21.5 per cent. Italy has lately improved her position and stands third on the list with 6.7 per cent. It is noteworthy that Japan has not been able to maintain the strong footing gained under war conditions, when she averaged 16.7 per cent. She is down to 1.2 per cent, a somewhat lower figure than before the war. The United States has 3.3 per cent.

One of the tables given in a report packed with information provides a summary of the directions in which the United Kingdom share of the total import trade has been lost to other countries. Mr. Meek expresses some satisfaction that the progressive fall in our relative share was arrested last year, being only a fraction lower than in the previous 12 months. But the fact remains that our proportion of the trade is under 48 per cent instead of over 64 per cent in 1913-14.

Germany, which was then second on the list, has almost recovered her percentage, but meanwhile two other competitors have forged ahead, so she now takes the fourth place. She has been supplanted by the United States. The

pre-war shipments of that country were valued at some Rs. 4½ crores; they are now Rs. 20½ crores. Mineral oils remain, as then, the largest individual item, but instead of accounting for nearly half the trade they now represent not much more than one-fifth of it. An extraordinary increase is in raw cotton which sent in negligible amount before the war, last year stood second only to mineral oils being valued Rs. 435 lakhs. The third place in the list is held by Japan which has 7.2 per cent of the trade compared with 2.6 per cent (then also the U. S. A. total) in 1913-14. Of her total trade of close on Rs. 18 crores nearly two-thirds is in cotton, raw and manufactured, and silk manufactures account for another Rs. 1½ crores.

Agriculture in Bombay, 1927-28.

"Generally it may be said that the average public man has to-day a fuller realization of the importance of agriculture to India than he had a few years ago," says the Director of Agriculture for the Bombay Presidency in his Annual Report for the year 1927-28. The general agricultural awakening in the Bombay Presidency to which reference has been made in the past continues to expand. This can be observed in many forms, such as the desire of the cultivator to adopt land improvement schemes, the attention given to the economics of sugarcane, the demand for premium bulls, the interest taken in horticulture, the anxiety to secure seed of improved varieties of crops and the efforts to develop local organizations for promoting agricultural improvements. This public interest in agriculture has received a strong stimulus from the work of the Royal Commission on Indian Agriculture. It is also pleasing to note that the first Presidency Agricultural Show has, to an appreciable extent, kindled the imagination of some of the rural leaders who see fresh opportunities for useful service to their districts.

The year 1927-28 was, on the whole, a favourable one. The outstanding phenomenon was the deluge in North Gujarat, Kathiawar and South Sind which took place at the end of July. The rain was practically continuous for six days, and the whole of North Gujarat was converted into a vast lake. People took refuge on railway platforms and in upper stories, while live-stock sought the higher grounds. The general expectation that the human death-roll would be great, the live-stock casualties colossal and the consequent anticipated epidemic of disease devastating, was falsified. There were very few deaths among the people, while the losses in live-stock were comparatively small. An epidemic did not break out due, it is said, to the very prompt action of the Public Health Department. There was, however, great privation for some days but the chief material damage was to the houses. These collapsed everywhere and on a large scale. Damage to agricultural land was remarkably little; this took the form of scouring in some places and sand deposits in others. All standing crops were destroyed, but, thanks to the relief measures, resowing of kharif crops or the substitution of rabi crops, was general and visitors to North Gujarat in the subsequent cold weather found it difficult to realize the severity of the flood.

The Department of Agriculture is in a position to render substantial assistance to the agricultural public in a number of directions, continues the Director, and this help is limited only by the comparatively small size of its organization. The principal forms of assistance that can be given are enumerated below:—

Seed.—As a result of the Botanical Research carried out upon the principal crops of the Presidency, the Department has been successful in finding or evolving a number of superior varieties and strains of rice, wheat, jawar, bajri, cotton, groundnuts, sugarcane, tobacco and other crops, but before the public can benefit from such work it is necessary to devise machinery for the multiplication and distribution of the seed. Special attention has been given to the organization of the supply of improved cotton and rice seeds. As regards cotton, it has been found that the Department, with the aid of its own, and private seed farms, can develop and control a new variety up to the stage when it occupies from 5,000 to 10,000 acres of land. Beyond this area it has been found essential to pass the work on to some other organization. Thus in the Karnatak an improved variety of cotton (Dharwar I) has been spread and controlled up to 300,000 acres through the Hubli Co-operative Cotton Sale Society. Everything, however, ultimately depends upon financing the cultivator while his crop is still growing, and it is here that Co-operative Agency is apt to break down. This has been the experience of the Hubli Society

which was compelled to contract its activities in the year under report to 144,120 acres.

In Sind the area sown with the improved Deshi variety of cotton, known as 27 W. N., was 50,149 acres and that sown with the Punjab American strain, known as 4F, was 23,908 acres. Turning to rice, the system adopted in the North Konkan is to distribute departmentally controlled seed to a different group of villages each year, and allow natural spread to take place. In the year under report 125,000 lbs. of the improved Kolumba rice sufficient to sow 3,500 acres were so distributed.

Groundnuts constitute the most important kharif oil-seed and remarkable progress has been made with the introduction of early varieties, like Spanish peanut, which mature on the rainfall and do not require irrigation. This is very largely an export crop and exporters demand purity; hence the Department is making special efforts to ensure the cultivation of pure varieties.

The improved tobacco strain evolved at Nadiad continued to give great satisfaction and the area under it is being expanded in the District. The Department is also giving special attention to assisting irrigators to take up tobacco cultivation on the Deccan Canals where a greater diversity of cropping is wanted.

Cattle Improvement.—The improving of certain breeds bred on Government farms was continued throughout the year and further progress has been made.

This Presidency now has seven Government Farms carrying out such work and there are two Gowshalas subsidized by Government doing the same work. Two Taluka Development Associations and several Co-operating Societies are further extending the work by using pedigree bulls bred on Government farms on selected cows of the breed best suited to the areas in which they are located.

Vigorous propaganda is being carried out to do away with the scrub bulls in villages, and to use pedigree bulls of known breeding which Government offer on a very liberal premium system. There are now 99 bulls receiving the premium offered, of which 50 were given out this year. Over and above this, there are a number of pedigree bulls working, whose tenure of the premium has expired. The demand is greater than the finance available for this scheme will provide.

A new system of propaganda by lectures, illustrated with the aid of magic lantern, has proved successful.

The Presidency Show, the District Show and the Taluka Show have proved successful and are fairly well patronized by cattle breeders. The cattle shown are improving and the attendance is increasing year by year. Poultry farming is taking on very well; at a Show held in Poona there were shown 180 odd birds of eight different breeds by 23 different breeders. It has been taken up by farmers as a subsidiary to agriculture as well as by the working classes.

Owing to disease, sheep breeding experiments in villages made little progress. Twelve imported cross-bred Merino rams only lived for a few months but their progeny, although small in number, were a distinct improvement on the female parent.

Bunding—Field Embankments.—There is probably no agricultural improvement of greater value in many parts of the Presidency than bunding. This is particularly true of the East Deccan and Karnatak. In these tracts the practice of bunding is an old one but the manner in which the Department of Agriculture can render special service is in advising the people how to choose the correct alignment for their bunds and how to construct them, with special reference to the waste weirs. Government have appointed an Officer of the Public Works Department to deal with comparatively large schemes of land development and the Agricultural Department concentrates on small schemes such as are undertaken by a single cultivator. There are now three whole-time graduate assistants employed on the work and their services are in great demand.

Well-Boring.—The Department has for many years undertaken the boring of wells in all parts of the Presidency and in the year under report 307 bores were undertaken of which 178 were successful.

PROPAGANDA AND ORGANIZATION.

Several new forms of propaganda were introduced or developed during the course of the year, of which the special classes for adults, lasting for a few weeks, are perhaps the most significant. For some years the Department has been running a special sugarcane class at Manjri for a period of about three weeks during the crushing season and in the year under report this class was conducted at Baramati with very satisfactory results. It was attended by 50 cultivators and six officers of the Irrigation Department. Similarly, the Agricultural Engineer has been conducting a special class for the training of men in the arrangement and running of simple machinery such as oil engines and 14 cultivators took advantage of this class.

A further development of this type of instruction has been the special horticultural classes held in Satara and Surat Districts, which were attended by about one hundred adults and school boys.

The most interesting development as regards Shows has been the holding of one of them at an important market. The Horticulturist organized a Mango Show at the Crawford Market, Bombay, in May (11th and 12th) which was attended by some 16,000 persons and proved very popular among professional mango growers.

A large District Show was held at Ahmednagar and was very successful due largely to the effective demonstration of improved methods of cultivation. Altogether there were 28 shows and 781 organized demonstrations held all over the Presidency during the year under report.

The Divisional Boards of Agriculture have continued to do useful work in guiding agricultural propaganda and controlling the activities of the Taluka Development Associations. In Satara District agricultural propaganda has been taken over by the District Local Board which controls the work of all the Taluka Development Associations. For this purpose the Department has lent the Board a trained staff of agricultural officers to give the system a thorough trial.

The Collector of Bijapur has organized an anti-famine institute which aims at organizing the whole district for agricultural improvement through the medium of village officers, and this Department is giving the institute every assistance.

RESEARCH.

Most of the activities of the Department have their source in successful research work and investigations are in progress, relating to the circumstances governing the natural additions of nitrogen to the soil, and the best methods of conserving moisture in the scanty rainfall tracts.

A great deal of attention is being bestowed upon the improvement of crops through Botanical Research and selection and hybridization has resulted in a large number of improved strains of rice, cotton, wheat, jowar, bajri and tobacco being evolved. The improvement is largely in point of yield, especially in cereals; but in cotton improvement in quality has also been secured.

Considerable research is in progress upon the preparation and manufacture of bottled juices from the common fruits of the Presidency such as lemon, jambul and pomegranate. Investigation is also in progress into the use of wild stocks on which to bud citrus fruits, such as lemons and oranges. One of the most promising of these stocks is the Kawat (Feronia elephontium) and another is the Bel (Aegle marmalos). If this work proves successful then the scope for extension of cultivation is very great, because these are hardy trees which can grow under conditions quite unfavourable to the common stocks like jamburi and karna. These stocks, moreover, would probably ensure the immunity of these citrus fruit trees from the serious disease known as "Die-back" which is usually associated with an unfavourable environment.

The Trustees of the Sir Sassoon David Trust are financing a research scheme for the improvement of grass-lands as well as one for investigating mango blight.

Progress in the use of artificial fertilizers in this Presidency has been slow as dry crops have not shown any very striking response to these fertilizers, and cotton is practically the only rain-fed crop which has benefited therefrom. Success with cotton has been attained in Khandesh where a combination of sulphate of ammonia and cake has proved successful.

A wet crop like rice on the other hand has shown substantial results from the application of sulphate of ammonia after transplanting and this fertilizer has proved useful in the rice seed beds. On the laterite soils of the South Konkan and Kanara, bone-meal has done well in the case of rice. Among irrigated crops sulphate of ammonia is now an established fertilizer for sugarcane in the Deccan, while nitrate of soda has given good results on the onion crop.

In view of the fact that a large part of Sind will be agriculturally transformed by the Barrage Canals System, which will give the country perennial irrigation in place of the present precarious supply from inundation canals, it is necessary to take stock of the many problems which will confront the cultivator under the new conditions. The existing methods of farming the country will be entirely out of place aud unsuitable. In the first few years there will probably be a tendency among many cultivators to cling to their present system and sow as much cotton and wheat and other cereals as the water supply may permit. Such farmers will soon find to their cost that their lands are rapidly becoming exhausted, and, in many cases, developing considerable areas of kalar (alkaline soils). With the small,

grant placed at its disposal for the investigation of problems arising out of the Lloyd Barrage Scheme, the Department of Agriculture has (a) established an agricultural research station at Sakrand, on the left bank where a perennial supply of water can be obtained, (b) converted one of its existing farms into a Horticultural Research Station, and (c) organized special propaganda on a modest scale.

AGRICULTURAL ENGINEERING.

The importance of labour-saving devices in agriculture is becoming more widely recognized in India, as a result of the rise in wages. It is only a few years since the first power cane-crushing mill was purchased by a cane grower, but at present there are 52 such mills in the Deccan Canals tract. Similarly the number of power pumping plants has been increasing. The largest field, however, for the Agricultural Engineer lies in the improvement of existing agricultural implements and the design of new ones. In this connection the Agricultural Engineer has been devoting special attention to the improvement of the indigenous seed-drill, and he has succeeded in evolving a greatly improved machine. At the present time drilling seed requires a small gang of men, women and bullocks, but this new drill requires only one man and one pair of bullocks and the Agricultural Engineer estimates that its use means a saving of about Rs. 5 per day. Another problem which is receiving special attention is the designing of a machine for harvesting groundnuts. The operation of separating grain from chaff in certain windless tracts presents great difficulty, and the Agricultural Engineer has been making a special study of the design necessary for a winnowing machine which will give a clean sample of grain from Indian bhusa.

Another problem under investigation is the use of the saw-gin for ginning Indian cottons.

AGRICULTURAL ECONOMICS.

It is now widely recognized that one of the main reasons for the unsatisfactory conditions of agriculture in many of the unirrigated tracts is the large amount of spare time left on the hands of the agriculturists; and economists have given very careful study to the solution of this problem through looking for suitable subsidiary occupations for agriculturists. There is, however, very little exact information on record in support of these views. Hence one of the special investigations undertaken by the Professor of Agricultural Economics has been the collection of detailed information upon the diaries of typical cultivators' families.

Data is now being collected with regard to farmers who possess no well, and when this is available it will be possible to realize, in concrete form, what has long been recognized in the abstract, namely how enormously a well adds to the efficiency of agriculture, through providing more or less continuous employment to the labour force.

Another important line of investigation undertaken by the Professor of Agricultural Economics is study of "costs". For this purpose four farmers have been selected in the villages of Nanded and Wadgaon and a detailed financial record of their entire business is being maintained. The results are expected to throw a useful light upon the economic position of the peasant farmer.

Another highly important branch of Economics is the marketing of produce. With the aid of funds supplied by the Indian Central Cotton Committee, valuable detailed investigations have been conducted into the marketing of cotton in Khandesh, Gujarat and Sind, with special reference to the inter-relation of finance and marketing.

The expenditure of the Department amounted to Rs. 17,08,600 during the financial year 1927-28 as against Rs. 16,46,200 in the previous year. The receipts amounted to Rs. 2,59,700 as against Rs. 2,78,100 in the previous year.

Subsidies were received from the Indian Central Cotton Committee to the amount of Rs. 1,04,000 and Rs. 25,600 from the Sir Sassoon David Trustees

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From the declarations of policy regarding the tariff which have been made during the American Presidential campaign it would appear that, whichever side wins, the path of the British exporter to the United States is not likely to be made any smoother. There are, however, a number of factors which will probably keep any revision within reasonable bounds Certain important American industries, such as motor-car manufacture, are becoming increasingly dependent on export markets for their surplus, and American importers are more numerous and better organized now than they have ever been before. At the same time, there is said to be a feeling of reluctance in many quarters to proceed too far in the erection of trade barriers at a time when the rest of the world is discussing their reduction.

So long as that which might have been isn't, why worry your head about it?

A New Line for Co-operation in India—I.

By Miss G. Ponnaiya, M.A.

"How the co-operative movement combined with the issue of a sound paper currency based not on gold and silver but on organized reliable labour and the assets which that labour will create will provide plenty and employment for all, and unify India." is the latest question that has been mooted in the co-operative field. I venture to sketch out an answer to it in a manner that might help those practically interested in it.

The topic of this article, dealing with the development of the potential capital of India, may be conveniently examined under the following heads:—First, how the Co-operative Movement can work in harmony with the system of Labour; secondly, how a Bank can work hand in hand with Labour; and thirdly, how best to realize the aims of such a harmonious combination in order to achieve the unity and solidarity of the Indian nation, and at the same time provide plenty of commodities and employment to all able-bodied persons.

"If the system of co-operation can be introduced and utilized to the full, I foresee a great and glorious future for the agricultural interests of the country." His Majesty the King-Emperor's words spoken in 1911 ring true even to-day. The lack of co-operation among the agents of production in India has contributed much to her economic retrogression. For, the wealth of India lies in her uncultivated and under-cultivated lands and in the potential energy that she has in her labouring force. What is required of India now is to unite all her labouring units and to see that they are organized and made reliable, so that the force would take the place of capital in banks and be the means to further production. Just as the shroffs test the money which passes their hands and eliminate counterfeit ones before receipting it to the Bank, so also if organized reliable labour is to take the place of capital in a co-operative bank, each unit has to be tested before it is made eligible to enter the sacred precincts of Capital. For the whole life of the Co-operative Movement depends on capital. Should the heart of the Bank, that is, labour-deposit, prove to be rotten, the future economic welfare of India under which this system is to be introduced, would be blighted. Hence the whole responsibility of looking to the future welfare of India devolves on this Co-operative Movement. This naturally leads us to examine:—

THE PRESENT POSITION.

The present conditions in India: Some defects needing remedies.

The Co-operative Movement was brought into existence in India with the beneficent aim of rendering substantial aid to the masses.

The progress of the movement has been very rapid and the societies have benefited the urban population generally, but have failed to fully reach the rural population. Consequently, they have barely touched the fringe of Indian population; for, India is mainly an agricultural country, about 77 per cent of her people being directly connected with land. The co-operative societies which came into existence to mitigate the evils of the Banking System in India, have only partly attained success as they have not extended sufficient facilities to rural areas.* The reasons of the failure of the Co-operative Movements in rural parts are illiteracy and ignorance of the average villager, and attitude of the townsfolk to villagers. The strict methods of repayment of loans by the rural credit societies make them unpopular. The rustics, therefore, prefer local money-lenders and the intermediaries even at the risk of paying them heavily. Again, the Co-operative Movement has not sufficiently met the real wants of the villagers. The lack of buying and selling societies which will also store agricultural produce while allowing credit thereon is a great desideratum in the land.

These are the people who reap where they do not sow; they thrive because the socio-economic structure of India has not been overhauled after the advent of the Industrial Revolution of the West. They continue to exist because no institutions have been introduced capable of displacing them. Of these, the intermediaries form the Bankers and Brokers to the producers as well as to the consumers. Many of them no doubt work for as low a percentage as 5%; but they are not desirable because they take away the little that would ordinarily help the producer. These people have no mercantile morality. The ignorance of marketing

* South India, especially the Madras Presidency, has many landed proprietors whose education has influenced them to join hands with the Co-operative Societies. But in the Mysore State, the Co-operative Movement has not made as much headway in rural areas.

produce on a large scale, drives the producer to the intermediaries. The consumers too suffer in the same way as the producers: for, the intermediaries while striking down the price of the producers charge very high rates for the consumers. The efficiency of both the producer and the consumer is thus impaired by the intermediaries who tend to raise and inflate the price by the amount of the toll they levy from both of them. The society which consumes the produced articles are thus the ultimate feeders of these intermediaries. These must be got rid of by fostering a sound commercial morality which could be done by evoking the best in man to achieve something for patriotic ends and secondly, by instilling sound literary education which might contribute to help the merging of self-interest to realize the coveted goal of economic prosperity of India, and finally, by making co-operative societies to function as intermediaries for selling, storing and buying. It is not possible to merge self-interest completely even though equal opportunities be given to all with equal facilities for development. But our aim is to put self-interest under limitation and to teach people that beyond that limit self-interest will bring its own ruin. In other words "It is character and sense of responsibility which requires to be fostered, and not only morals, but grit, stamina, mental energy, steadiness, toughness of fibre, endurance must be trained and developed." Of course this kind of self-interest cannot take root easily until the majority are educated. The principle is suggested only as a means to mitigate the evil of self-interest. A sound banking system reaching from the richest to the poorest man in economic society would rid it of the bane of intermediaries who advance credit in the form of hard cash or raw materials and make away with the fruit of the producer's labours.

The other evil that the co-operative societies have failed to cope with is the money-lenders. These are harpies of the worst type, the starved leeches who wait to adhere to economic producers, and Shylocks who would have nothing but the pure blood of the heart.

Our banking facilities are not modelled on the Western Banks, where every enterpriser could borrow as much as he wants. In fact Indian banks do little foreign exchange business. They are mostly Governmental in character and have nothing to do with forwarding the project of enterprising business people. The co-operative societies came into existence to remedy this defect but these too have not sufficiently extended so as to reach the most needy who require small capital both for productive and unproductive purposes.* The ignorance of the majority of rural people and the pressure laid upon them by social and economic circumstances drive them to the money-lenders who are always well disposed towards the needy and sympathize with them. With no security or with very little security, these money-lenders lend capital to their needy brethren. In the Mysore State, the rate of interest which these money-lenders charge ranges from 18 per cent to 24—25 per cent and in cases where no security is offered, it ranges to cent per cent. There are very many kinds of money-lenders, many of whom have to be dreaded. The passing of a Usurious Loans Act giving special protection to debtors, would reduce the numbers of such money-lenders as take very heavy interest. The police should be especially instructed to see that such money-lenders abide by the rules which are laid down by legislation. In the rural parts, the money-lenders advance money, and before their clients could sell their produce, arrive usually at hardest times and buy the produce at very low rates, thus depriving the debtors of the chance of finding a good sale for their produce. In the long run, the debtor finds himself forced to sell or relinquish his land which he has mortgaged as security, and reduced from the status of a landed proprietor to that of a landless peasant labourer or a cooly. Consequently, the Government ought to interfere on behalf of rural society, and protect the small landlords before they go to ruin. As for the larger landlords, a sound Banking and Currency System must be made available for them so as to provide facilities for the large enterprises. Rural Credit and Non-Credit Co-operative Societies and Banks could easily look after the smaller ones. We shall now briefly survey:

The Banks in India are the custodians of Government money. They thus help the Government and they do not directly aim to help the producer or enterpriser. The condition of Banking in India is now deplorable. The Government too is aware of the inadequate banking facilities for the people. The Industrial Commission Report of 1918 recommended a good banking system and stated:—"Nothing more vitally affects the welfare of the people of India than the question of the healthy growth and expansion of national commerce and industries and nothing is more urgently needed

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* Instances of productive purposes are, the buying of cattle, implements, improvement of land, etc. Unproductive purposes are, marriage or death ceremonies, feasts and common festivals.

to make that growth possible and to sustain it than a sound system of national banking and finance, which should take note of and provide for the financial needs of the people in all important branches of their commercial and industrial existence." In order to introduce more banks to further production with the minimum cost, and to overcome the inadequacy of the banking facilities, the essay proposes to organize reliable labour as its capital : this leads us to investigate the Present labour conditions obtaining in India.

"Organized reliable labour" sounds majestic. But it is an unmaterialized ideality. India *has not at all reached a stage of evolution in labour* which implies co-operation of work. Such a term as 'organized reliable labour' is inapplicable to India at present, in spite of the fact that "India was carrying on skilled agriculture at a time where in their own unreclaimed mountains and morasses Europeans still hunted the bear and the wolf. Providence has endowed her with a wealth of natural resources and rare aptitudes for prolific high-class husbandry. Skill is there, and capacity for labour is there. Areas fit for cultivation (about 80 per cent of the people are agriculturists) are there in plenty. Nevertheless, agriculture taken as a whole has remained and still remains backward—backward in quantitative proportion."—*Wolff*. The lack of organization significantly expressed in this quotation holds good even to-day. Hence organized reliable labour in India exists only in the philosophic minds amongst us. *But in actual reality* there is no such thing to freely take it and make it as a deposit and capital for our co-operative movement. In order to materialize this theoretical hypothesis of philosophical minds, a combination of physical, mental and material help is very essential. Workable practical principles are wanted, as also an adaptation of them to suit local environment in order to maintain continuous and increased production. It is therefore desirable to deal with the conditions of labour as it is found in life and fashion it to the required shape rather than assume its being organized and reliable as a working hypothesis. Viewed in this manner, our co-operative movement will attain a sound deposit and capital on which to rotate its business. Mere hypothetical theories having no bearing on actualities can yield no results. All fine theories about banking, co-operation, currency, etc., will topple down, should we begin to build them on the flimsy foundations of organized reliable labour which is only a theory.

Not all the 320 million people living in India turn out economically productive work. To find out how many labourers there are a careful census should be taken in various areas according to caste, sex, age, family, occupation, income of earning members, etc., not forgetting the number of dependents who are not earning. The latter should also be classified according to sex, age and physical condition. We will thus arrive at approximate figures of productive labourers as well as of the unproductive dependents, such as the maimed, the blind, the aged, the infirm, beggars, swindlers, intermediaries and money-lenders.

It will then rest with the co-operative movement to tackle existing labour conditions. The movement must begin its work of both destruction and construction in order to create organized reliable labour. Just as, in order to improve the yield and quality of roses, it is necessary to prune the leaves, aerate roots and manure and water the plants, it is necessary also, before we get the genuine article of organized reliable labour on any large scale, the co-operative movement has to systematically extend itself so as to reach all kinds of labour, and thoroughly overhaul the existing defects of their economic missionary. Without studying the present labour conditions and without freely applying the pruning knife where necessary, organized reliable labour cannot be materialized.

Our time-honoured sanctions of custom and religion have woven pernicious elements into *society and all well-meant precepts are abused.* While adhering to the letter of the law, we have blinded ourselves to the spirit of the same. Hence, the unequal distribution of opportunities which cropped up with the advent of the Industrial Revolution of the West, dislocated our economic stability and broke up our economic unity. The large-scale production with labour-saving devices, the great output of goods stand out at a short time and sold at cheap rates have succeeded in gradually ousting Indian labour from certain departments like cotton-spinning and weaving and indirectly lowered wages because the excess of labour that was vegetating on land had to accept what they could get for their livelihood. The onus thus thrown on land combined with the laws of inheritance unique to India (in cases of landed propertied people) accelerated the inevitable agrarian evils of sub-division and fragmentation of holdings which made land uneconomic. Such of those who had no land but had rich relations depended on them; and the sanctions of custom and religion did not

deter even the very poor kinsman from helping his poorest relation. This began to undermine the efficiency of the labouring units and promote *the formation of parasites on society. In fact, these began to swell gradually and at present their numbers approximate to a fifteenth of the total population of India.* The co-operative movement may with advantage use the collected information regarding beggars, and educate public opinion so as to get the State to penalize beggary by able-bodied persons. In the case of religious mendicants, the State should issue licenses only after ascertaining their ostensible means of livelihood. *For such of those beggars who cannot find work,* a colony should be opened on a co-operative basis with State aid to bring under cultivation such lands which are left uncultivated. Here, they may undergo training in return for food, shelter and clothing. Until they assure society that they will be economically productive, they should be interned in the colony. As for the aged, the maimed, the infirm, etc., who are dependent on the labouring units, suitable arrangements should be made so that they may not in any way sap the efficiency of the labouring units.

As for the intermediaries and money-lenders, *some methods have already been suggested for getting rid of them.* The self-seeking gamblers who want to be favourites of fortune, squander *their own as well as others'* wealth and have to *be eliminated by* rigid methods. The present-*day regulations penalizing them are easily evaded. The rich and influential among them* ought to be saddled with heavy honorary duties entailing personal responsibilities and direct supervision, and thus their energies diverted to fruitful things. The poor among them should be forced to work according to their capabilities. The thieves and swindlers, such of them as are known to the authorities, should be *compelled* to show work and means of honest living during the periods of their probation, in the same way as jail discipline and work is meted out to those who are punished under law. The aim is to implant the moral lesson that work by the sweat of the brow alone gives a man an honourable living. A too rigid system of putting offenders among them in prisons blunts the edge of the moral stigma and consequently Jail is least dreaded by some. The above-mentioned social parasites have to be destroyed very early for the socio-economic health of the community.

Aktiebolaget Primus

One of those Swedish industrial products which are exported to all the countries of the globe is the Primus oil stove. Unlike other Swedish export commodities, its manufacture was not carried out from the outset on an industrial scale, but, in the course of some forty years, gradually evolved from a somewhat primitive handicraft into a large modern industry. The undertaking which subsequently developed into AB Primus started with no capital other than an invention, and with a staff consisting of a single worker. Moreover the capital with which it was supplied during the course of its development was not derived *from outside sources, but was accumulated* within the undertaking itself.

The existing company, AB Primus, was founded in 1898, with a capital of 1,500,000 kronor. But the tiny firm out of which the company developed, and which was founded some ten years previously, had no other basis than the commercially promising idea of gasifying liquid fuel, and the energy and enterprise of its initiators.

Some obscurity still exists as to the early *origins of the "gas stove". We do not know* for certain who was the actual originator of the idea. It appears, however, that the enterprise arose from the attempts of some workmen in the employ of AB Separator to construct a more effective oil stove than the then existing stoves with wicks. The one who succeeded best, at any rate as regards the practical exploitation of his invention, was Frans Wilhelm Lindqvist. The construction of his oil stove, which subsequently became the world-renowned Primus stove, had been carried to completion as far back as the eighteen-eighties. The characteristic feature which distinguished it from all other *oil stoves of earlier date was the abandonment* of the wick. The oil was brought under pressure by means of a little air pump, was caused to circulate through the burner previously heated with burning spirit, and was thus converted into gas. The gas then flowed out through a narrow aperture, mingled with the air, and burnt with a blue smokeless flame with great intensity of heat. In short, the stove operated like a miniature gas-works, in which an effective mixture of petroleum gas was produced and combusted.

According to subsequent estimates, the heat effect thus obtained corresponded approximately to 95 per cent of the total heating-capacity of the oil, whereas the heat effect obtained in oil stoves with a wick was merely from 15 to 20 per cent. With a stove of the last-mentioned type it took from 20 to 25 minutes to bring a litre of water to the boil, with the Primus stove only 3 or 4 minutes. Under such conditions it was obvious that the new stove could compete successfully with the stoves of the old-fashioned type.

The making of the Primus stoves at first proceeded on a very humble scale. Thus in 1891 the manufacture was carried on in a little workshop with a floor space of only six square metres, and the entire working staff consisted of the inventor himself, occasionally assisted by a brother. The sale was organized on an equally modest scale, in that the new stoves were sold one by one to households, and frequently were paid for in instalments. Most of the buyers were fellow-workmen in the employ of AB Separator.

The business, however, was extended in the following year. The proprietor of a little workshop in Stockholm, J. V. Svensson, had got interested in the invention and offered Lindqvist a partnership. Lindqvist, realizing the advantage of securing a better workshop, accepted the offer on the condition that Svensson invested a thousand kronor (£55) in the undertaking. Svensson, however, not being in possession of the required sum, was obliged to borrow it. His contribution must therefore be regarded as a small advance on the capital which was to be produced by the invention itself. The partnership agreement was concluded and took effect from March 1st, 1892. The new firm was styled J. V. Svenssons fotogenkoksfabrik, and "Primus" was adopted as the name of the product. The machine equipment of the "factory" consisted of two lathes and a small hand-press, the driving power being taken from a blacksmith's workshop below by means of a belting passing through the floor. The working staff was at first confined to Lindqvist himself and two assistants, but was gradually increased, so that at the end of the year it amounted to seven hands. The total output during the year amounted to 1,204 stoves.

In the summer of 1892 was concluded a contract which was destined to be of the greatest importance for the development of the new undertaking. The two partners at that time entered into touch with the recently established firm of B. A. Hjorth & Co., and transferred to that firm the sole right of sale for the Primus stoves. It may be presumed that the makers merely intended to secure an effective organization for the introduction of the stoves into the home market, and that, in view of the small output capacity of the little factory, the possibility of export in the near future did not enter into their heads. The manager of the firm just mentioned, Mr. B. A. Hjorth, was, however, sufficiently far-sighted and bold enough to aim from the outset at the sale of the stoves on the international market and accordingly stipulated that the sale monopoly should be granted for the whole world. The fact that the factory which was now to provide the entire world with oil stoves had a staff of not more than seven hands throws into relief the bold optimism which was characteristic of this contract.

This optimism, however, was by no means destined to be disappointed. In that very year a number of stoves were exported to Norway, and at the beginning of the following year connections were established with Russia and Hamburg exporters. In Norway moreover the new oil stoves almost immediately attracted the attention of a business-man who, after settling in England, entered into connection with the selling firm and had soon built up a big agency for Primus stoves. It is still in existence.

The business now developed at a rapid pace. For want of space the factory was removed in 1893 to new premises. The number of hands now amounted to about a hundred, and the manufacture was perpetually extended, according as new markets were captured. As has been already mentioned, the firm was converted in 1898 into a joint-stock company with a capital of 1½ million kronor. Out of the 15,000 shares of 100 kronor, 9,050 were subscribed to by Svensson and Lindqvist. Thus out of the fresh capital required for the expansion of the business, about 60 per cent was derived from persons who were ultimately connected with the undertaking. Indeed it may be presumed that the bulk of this investment consisted of profits arising from the business itself. J. V. Svensson took the post of managing director, whilst Lindqvist had at first to content himself with a more subordinate position. Svensson, however, remained in the firm only for one contract term, that is, till April 2nd, 1904. After that date the post of director was held by Lindqvist himself up to the year 1918, when Mr. B. A. Hjorth assumed the directorship and moreover took over about 99 per cent of the then existing shares. The capital had been increased in 1911 to 3,000,000 kronor.

From 1907 the manufacturing business was removed to a plant on the island of Lilla,

Essingen near Stockholm, which, though erected from the outset on a large scale, nevertheless had to be enlarged again and again. The staff of workers at present amounts to about 750 hands. In the course of the period during which the firm has been under the management of Mr. Hjorth scientific methods of production have been introduced, so that the machine equipment of the Primus factory is now in every respect quite up-to-date. In consequence the output capacity has considerably increased without a corresponding increase in the number of hands. At the same time the range of production has been extended from year to year. For example, at a comparatively early stage the company engaged in the manufacture of soldering lamps and in the course of years produced an ever-increasing number of new apparatus for cooking, soldering, melting, heating, the ignition of motors, etc. From 1927 the company have moreover taken up the manufacture of storm-lanterns, table lamps and heat radiators, operating on the same principle as the Primus stoves. A characteristic feature of the production of the Primus Company is rigorous adherence to the system of standardization. The demands of the market are, however, multifarious and necessitate a large number of variations in type. Most of these demands can be met by combinations of standard parts. It is a curious fact, however, that the type of oil stove which is still most in demand scarcely differs in appearance from the model which was launched nearly forty years ago.

Owing to the skill with which the sale organization has been planned and the businesslike way in which it has been carried out, the products of the Primus factory have found a market in all countries of the world, and have an established reputation for superior quality. Though the competition is severe, and though it tends greatly to cut down prices and thus also the margin of profit it does not disturb the dominant position of the Primus factory. The severity of this competition is indicated by the fact that in 1925 there were in Sweden alone some ten other establishments for the production of oil stoves and soldering lamps. There are also a considerable number of competitors in Germany and America. In fighting for the various markets the Primus factory has had the advantage of its high standard of quality and of its well-known trade mark. Unfortunately, however, the purchasing public in most places appear to have regarded the name of Primus as a kind of collective designation for all kinds of similar stoves without reference to origin. Another handicap is that a large number of competing makers have closely imitated the Primus stoves in shape and appearance. Both these facts, however, involve a high testimony to the superiority of the Primus stove.

The Association for Education in Industry and Commerce in England heard recently a series of papers followed by discussion, on the question of "Education for Responsibility". Mr. William Clower, Chief Officer for Labour and Establishment, L. M. S. Railway Company, reviewed the history and purpose of the scheme in operation on that system for securing co operation in working between workmen and executive officers. He said that the scheme embraced 270,000 employees, and it allowed for free discussion and Consultation through national and local committees. Sir Josiah Stamp, who introduced it, found it so beneficial that he widened its original scope to embrace every phase covering the operations of the railway, thus replacing the almost military system of discipline that had existed for nearly 100 years in railway management. It was too early to draw complete conclusions as to the permanent benefits of the scheme, but there were already definite indications of a tendency towards betterment in certain directions. The staff had certainly developed a new outlook on the problems of the railway business and had begun to realize that they could not continue to get out of industry their present personal benefits unless they put into it their best efforts. A spirit of good-will and conciliation had been developed between officers and men, and there were definite instances of trade having been secured by their joint efforts. Men were exhorting their fellows to give greater and better output and to fight against all forms of waste and extravagance. During 1928 there were 1,450 meetings of local committees, three times as many as in 1927. The real significance of the figures was in the fact that the meetings in 1927 were mainly concerned in discussing the alleged grievances of the men, while those held since the development of co-operation had been devoted mainly to the question of making co-operation increasingly successful. The men had pointed out numerous ways in which business could be managed with greater economy, and since the adoption of the plan for inviting personal suggestions, over 8,000 had been received and considered. Many of them had proved to be of substantial value and had been adopted.

Progress in Mysore.

Mysore Railway Advisory Committee.

Government has approved the constitution of a Railway Advisory Committee for a period of two years. Vital matters affecting public weal come under the purview of this Committee such as alterations in the time table of passenger services; alteration in rates and fares and changes in goods classification; proposals regarding new projects and extensions; proposals in regard to new rolling stock; and matters pertaining to the general public interest and convenience. The appointment of a wholly non-official body should meet with public approval. We await with pleasure the working of the Committee in view of general impression that a non-official body would be able to devote more time to the legitimate representations of the travelling public.

Reorganizing State Aid.

With Sir Charles Todhunter as Chairman, a strong Committee was appointed by Government to go into the question of organizing financial assistance to industries in the Mysore State. Now this Committee has finished its labours with some very practical recommendations of which the following are some notable points. The categories of Industries that were kept under view as capable of further profitable development were cottage industries, which include silk reeling and silkworm rearing, silk and cotton weaving, intermediate industries such as metal working, the preparation of essential oils and perfumes, poultry and dairy farming, bark-tanning, hides and skins and factory industries—mills and factories. Referring to the limitless possibilities of increased water-power the Committee draws attention that small turbines could give from twenty to thousand H. P. with from 15 to 20 feet head. This might help to start or revive many a village industry if our trained youths from the College and School of Engineering were to take the matter in hand with State aid or under the auspices of Co-operative Societies.

State Forests and Depressed Classes.

A scheme for the grant of lands in the State Forests for cultivation by Adi-Karnatakas and such landless classes has been sanctioned. In this laudable scheme to lift the depressed classes whose economic position is definitely below other classes, some conditions, not at all severe or discouraging, are imposed to secure a sort of help towards afforestation by the would-be occupants of lands. Some of the conditions are that the family will carry out under the direction of the Forest Department both planting and sowing to the extent of 1,000 plants per year in the forest adjoining the land given to them for cultivation, that it will fence, protect, tend the plants till they are well established, that the lands will be formally registered in the family's name if the above conditions are satisfactorily fulfilled.

Instruction in Rural Science.

An interesting educational experiment is to be attempted in Mysore State Rural Middle Schools by including agricultural training in the curriculum of studies. Before applying on a State-wide scale, the Government have resolved well to introduce only in a few select schools as test cases. The successful working of the scheme mostly depends on teachers who must have undergone a course of agricultural training in its latest phases and methods. Leaving this alone they would be also a sort of ready advisers to inquiring agriculturists in rural areas. This thoughtful scheme has great possibilities for the rural good of this State.

Maps and Village Panchayets.

Government have directed that every village *panchayet* should maintain a map showing the existing lay-out of the village or villages under its control and the improvements or extensions in contemplation. This move towards up-to-dateness must facilitate ready reference.

Tank Bed Lands.

Government have directed that tank-bed lands granted for temporary cultivation should not be allowed to be cultivated for more than 3 years in succession by one man or another, and that land should be kept unoccupied for a year or two before being again granted for cultivation.

Adijambava Co-operative Society.

The above Society was visited by Mr. K. H. Ramayya, the Registrar of Co-operative Societies in Mysore, on 24th February. The residents who number about 150 families are cobblers by profession. In a speech the energetic Registrar exhorted them to fully make use of the society and the home savings boxes distributed amongst them. He proposed also to add a store branch to the society for selling leather, etc., required for carrying on their industry and also for granting small advances in special cases.

DEPARTMENT OF GEOLOGY.

The report of the working of the above Department is on hand. Chromite mining operations at Byrapur has yielded 10,548 tons of lump ore and 300 tons of powder which was sold for Rs. 2,16,719-11-6. Information was also collected about rock types associated with the mineral deposits in the neighbourhood of Chitaldrug, Kamasamudram and Gorur. Government have rightly abolished the scheme of profit sharing in manganese and chromite mining in view of the speculative nature of mining and of practical difficulties of working the scheme.

FILM INDUSTRY IN BANGALORE.

The Indian National Industries, Ltd., of Bombay have proposed to start a film industry and a school for film acting in Bangalore. It is believed that the Director of Industries and Commerce has promised some support to it. The selection of Bangalore as the centre for the Company's activities is a tribute to our State with its historical antiquities that would serve as a correct background for Indian films that are to be manufactured by the said company.

MYSORE TRADE RETURNS.

The export of sandalwood oil exported last year amounted to 1,38,000 lbs. valued at Rs. 21,92,600. The Bhadravati Iron Works exported in 1927-28, 10,884 tons of pig iron valued at Rs. 5,22,000 and by-products to the value of Rs. 3,85,000.

Economics in the West.

Currency Re-organization in the Balkans.

London, 31st March 1929.—To the lover of arithmetic simplicity the post-war currency structure of Europe must present a sorry spectacle of diversity and irreconcilable figures. The June-July, 1926 issue of the *Monthly Review* of the Midland Bank, Ltd., contained an article, entitled "European Currency Debutantes, 1922-26", in which particulars were given of various new monetary units conceived in the throes of currency upheavals and born under the sunshine of financial re-organization. Prior to that date the Austrian schilling, the Hungarian pengo, the Russian chervonetz, the Polish zloty and others had made their bow, almost all possessing hitherto unknown parities with sterling and the dollar. All but one have retained their original gold values, the exception being the zloty, which, as a result of a second process of depreciation, became stabilized in October 1927 at the new parity of 43.38, as compared with the original figure of 25.2215 to £1.

At the time of publication of the article mentioned none of the Balkan countries, with the exception of Albania, which had introduced a currency of its own with the gold franc as the unit, had achieved final monetary stabilization. During the intervening period, however, Greece, Bulgaria and Roumania have all arrived at this stage and it is interesting to inquire into the nature of the units and the character of the institutions to which re-organization in these countries has given rise. At the outset it is important to notice that in none of these countries has a new name been adopted for the monetary unit. The Greek drachma, the Bulgarian lev and the Roumanian leu have all survived in name from pre-war days, or perhaps it would be truer to say that the pre-war units have handed down their names to their now existing offspring. The parities at present in force are in all three cases quite different from the pre-war figures, having been arrived at by a process of drastic devaluation, undertaken after periods of inflation submitted to in varying degrees. In addition, the new parities now differ widely among themselves, whereas before the war all three were the same, each country then working on the system of the Latin Monetary Union. The result is therefore to add three more newcomers to the list of post-war parities.

GREECE.

The first, in order of time, to reach final stabilization was Greece, and in this case the necessary steps were taken under League of Nations supervision. Some particulars of Greek borrowing operations, at the end of 1924 for refugee settlement and early in 1928 for settlement and financial re-organization, were given in an article on "The League of Nations as a Force in Reconstruction" in the May-June, 1928 issue of the same *Review*. It is desirable now to consider the monetary

mechanism set up as part of the scheme, and at the outset two distinctive features may be noted. First, the currency reform was carried out, not immediately upon the issue of the loan but in May 1928, well within six months' period allowed by the League. Secondly, instead of utilizing an existing bank as part of the reconstituted machinery, an entirely new central institution, the Bank of Greece, was established with a monopoly of note issue. It followed that the old issue bank, the National Bank of Greece, was required to surrender its functions as the source of paper currency, the holder of the country's gold reserves and the Government's bank. It has now become a commercial bank with none of the necessary attributes of a central institution. Meanwhile contact between the League and the Bank of Greece is maintained by the presence of a foreign adviser.

The new parity for the drachma was fixed in May 1928, concurrently with the opening of the Bank of Greece, at 375 to £1, the rate which had actually been in force for some time past. Thus the new drachma has about one-fifteenth of the gold value possessed by the pre-war unit of the same name. The monetary system, as indicated in the statutes of the new Bank of Greece, is strongly founded upon a gold exchange standard. The maintenance of exchange stability is safeguarded by the provision that the Bank must buy or sell gold exchange on demand at the gold points, while against its notes and other demand liabilities a minimum reserve of 40 per cent must be maintained. This reserve may consist of gold at home or abroad and/or gold exchange, which is very carefully defined and includes balances with the central banks of foreign countries. There is no requirement as to how much gold, as distinct from exchange, the Bank must hold. The composition of the reserve, within the qualitative limits laid down, is a matter for its own discretion, and this fact, coupled with the exchange buying and selling obligations, places Greece distinctively on a gold exchange basis though it would be possible, should the Bank so decide, to put into operation on the basis of the present statutes, something closely approaching a full metallic standard. The Bank began operations with an ample reserve, consisting mainly of exchange, supplemented by some £2½ millions of gold.

The statutes provide the usual restrictions on Government influence in the affairs of the Bank. The powers of the State to hold shares of its capital are restricted and actually none of the capital is at present owned by the State. Further, governmental borrowings are rigidly limited in respect of both amount and duration. It will be seen, then, that the scheme of Greek monetary reform has in several important respects followed the regular lines pursued in other League plans. The Greek arrangements, however, are particularly interesting by reason of the precise nature of the standard set up and the establishment of a completely new central institution with privately-held capital. In this fact it would appear that the League machinery has shown an admirable degree of adaptability, a quality which was perhaps still more clearly displayed in the ultimate outcome of the discussions regarding Bulgarian stabilization.

BULGARIA.

The negotiations between the Financial Committee of the League and the Bulgarian Government threatened at one time to founder on difference of opinion regarding the future constitution of the National Bank of Bulgaria. Here it was decided to vest the functions of a central institution in the existing Bank whose capital was held by the State. One of the generally accepted principles laid down by the League's Financial Committee, however, has been the necessity of ensuring for the central bank complete independence of the Government, and accordingly it was at first required that the capital of the Bank should be disposed of by the Government to private investors. To this the Bulgarian Government could not agree, basing its objection on the scarcity of capital in the country which, it was argued, would result under the League plan in foreign interests obtaining control over the National Bank. Eventually a compromise was arrived at, the capital of the Bank being left in the hands of the Government for the time being, the Government undertaking to protect the Bank from political interference and to effect the transfer of the capital to private ownership at a date to be fixed subsequently by agreement between itself and the Council of the League. So far no such date has been decided upon.

This and other preliminary difficulties having been overcome, an external loan was issued under League auspices in November 1928. It was not, however, the first foreign loan issued on behalf of Bulgaria with the aid of the League, for in December 1926 a net sum of about £2¼ millions was raised for the financing of refugee settlement. The sterling portion of the more recent loan consisted of £1,800,000 of 7½ per cent bonds, most of which were offered at 96 in London, and the balance on the Continent. In addition, Fr. 130 millions were issued in France, $9 millions in the United States,

and $4 millions on the Continent. The net proceeds, amounting to about £5 millions, were to be applied to strengthening the position of the National Bank as the central institution, paying off budget arrears, development of transport and banking facilities, and repair of earthquake damages. The utilization of the proceeds of the loan is under the control of a League Commissioner who is acting in addition as foreign adviser to the National Bank, with a right of suspensive veto and powers of supervision to ensure compliance with the statutes.

Concurrently with the issue of the loan monetary stabilization was carried out on a new gold basis. The lev was given a parity of 673.66 to £1, about one-twenty-seventh of its pre-war gold value, the choice of this figure representing legal recognition of the approximate level of exchange for several years prior to the date of devaluation. The monetary standard is similar to the Greek, the National Bank being required to buy or sell gold exchange on demand at the gold points. Against its notes and other demand liabilities it must maintain a reserve of not less than one-third in gold and/or gold exchange, the second item again comprising, besides bills, balances with central institutions in foreign countries whose currencies are based on gold. Here too the powers of the Government to borrow from the Bank are limited in point of both amount and period. In this case then, as in that of Greece, there is no compulsion on the Bank to accumulate any particular amount of gold as distinct from exchange. The yellow metal is placed in a position which implies no superiority over exchange on gold standard countries.

ROUMANIA.

Roumania differed from the other two countries in that no direct assistance was obtained from the League of Nations. The plans for financial re-organization were evolved largely under French advice and were carried out with active support from the same source. Progress towards ultimate stabilization with the aid of an external loan was retarded by protracted negotiations regarding outstanding liabilities, but one by one the obstacles, which from time to time seemed extremely difficult if not impossible to overcome, were surmounted. The details of the external loan which formed a prominent part of the scheme are fresh in memory, for the issue took place only a month ago. The sterling portion consisted of £2 millions of 7 per cent bonds offered at 88 entirely in London; the publicly offered dollar portion amounted to $39 millions, of which a quarter was placed in New York and the balance in nine separate continental centres. The third part was in francs and this section aggregated Fr. 561½ millions, issued in Paris. In addition, $30 millions was taken by the Swedish Match Company under an agreement by which the Company is to operate a match monopoly in Roumania for thirty years.

The net proceeds of the loan were computed at between £17 and £18 millions, of which about £5 millions was to be devoted to currency stabilization, a small part of the remainder being for Government financial purposes, and the balance for productive works, reconditioning of the railway system, and the provision of working capital for the railways. The most important item in the present connection is the first, and to this must be added the protective availability of credits, amounting to about £5 millions, by arrangement with the central banks of fourteen countries, including Great Britain, France, Germany and the United States.

Concurrently with the issue of the loan a new parity was fixed for the leu and revised statutes laid down for the constitution and conduct of the National Bank of Roumania. On the first point, the figure adopted was close to the rate that had actually prevailed since the middle of 1927. As in Greece and Bulgaria, therefore, so in Roumania the new parity selected had obvious advantages, since a considerable time had elapsed for the adjustment of economic conditions generally to the final level of exchange. The gold content decided upon gives a parity of 813.6 lei to £1, so that the present leu has a gold value about one-thirty-second of that possessed by its ancestor of 1914, and about two-thirteenths of its second cousin, the new French franc. There is, however, no simple arithmetic relationship between the two cousins nor between the leu and its Balkan neighbours.

The monetary standard decided upon is hybrid. Like most of the new European currencies, it is on neither a pure and simple gold standard nor a pure and simple gold exchange standard, and time alone can tell which of the two elements will predominate. The National Bank, which continues to enjoy a monopoly of note issue, is required to redeem its notes in gold or gold exchange drafts, while it must maintain against its total demand liabilities a minimum reserve of 35 per cent in gold and/or gold exchange. Of this reserve at least five-sevenths, that is 25 per cent of the demand liabilities, must be, in gold.

In order further to safeguard monetary stability, the statutes of the Bank provide that

the participation of the State in its capital shall *not exceed 10 per cent the figure adopted in* the Greek scheme. The powers of the Government to borrow from the Bank are rigidly limited in point of amount and time, while the State debt to the Bank was substantially reduced under the stabilization scheme. In addition, the Bank has appointed a foreign adviser, holding office for three years, to assist in carrying out the plan. Generally speaking, then, it will be seen that the Roumanian reform has followed orthodox lines, very similar to those laid down in various League of Nations schemes adopted in other countries.

Progress in monetary re-organization is less advanced in Yugo-Slavia than in the three countries already mentioned. Despite prolonged discussions, without resort to the League of Nations, the dinar has not yet undergone final devaluation. The present rate of about 276 to the £ has been maintained for several years past through the operations of the National Bank of the Serbs, Croats and Slovenes, and some steps have been taken towards rendering the Bank more truly a central institution and bringing about legal stabilization. It cannot yet be said, however, that the dinar has been restored to a gold basis.

Comparisons and Conclusions.

The details here set out with regard to the new monetary systems in three of the Balkan countries are not without general interest over and above their particular local significance. *It is, first of all, good cause for satisfaction that* Greece and Bulgaria, containing between them roughly twelve million people, and Roumania, with nearly eighteen millions, have returned after many vicissitudes, spread over a decade and a half, to a common international currency basis. Some of the differences, however, between the three schemes are well worthy of notice. Two of them were carried out with active assistance from the League of Nations; one without. Two of them—and not the same two—utilized existing State banks and adapted them as central, though not exclusively central, institutions: the third established an entirely *new central bank. The two League schemes* instituted a distinctively gold exchange standard; the Roumanian a hybrid with a strong bias towards the metal. Each, moreover, has a different set of reserve requirements. One lays down a minimum of 35 per cent, of which five-sevenths must be metal: one of 35 per cent, of which none need necessarily be metal; and one of 40 per cent which again may be entirely in exchange. This comparison illustrates in striking form the fact that the numerous *ratios set up in the course of European* reconstruction are almost entirely arbitrary. True, the general level of the total reserve figure is about the same throughout the entire field but the fact that substantial differences exist in the required sizes and constitutions of cash reserves indicates that in the statutory provisions lies scope for future economy, through international co-operation, in the use of gold as a basis for credit and currency.

Finally, it is interesting, and not altogether satisfactory, to find still more new arithmetic units being instituted with each new reconstruction. In pre-war times the four countries referred to in this article used a common parity, the same as that of the franc. By this time not only have three of the four adopted new and diverse parities, with the fourth showing a distinct probability of selecting yet another, but their larger associates have done likewise and only the Swiss franc remains faithful to the parity of the Latin Monetary Union and its affiliated countries. It is not mere sentiment that prompts the words "All, all are gone, the old familiar faces". A process of complete abandonment of old units and adoption of some new common arithmetic basis would have had much to commend it when set side by side with the preservation, in nothing more than name, of pre-war currencies. A decent burial might have been preferred to continued existence in a ghostly form. In spite of this minor disappointment, it is possible nonetheless *warmly to welcome the new, gold-based currencies* which bring Europe a stage nearer to complete economic reconstruction.

Lord Dewar, opening the London and North-Eastern Railway Poster Exhibition at the New Burlington galleries, Piccadilly, had some amusing remarks to make about things in general and advertising in particular. They included—

If you do not advertise you fossilize.

The lions of society are tigers for publicity.

Nothing deflates so fast as a punctured reputation.

Success is merely a matter of buying your experience cheap and selling it at a profit.

Many a false step is made by standing still.

Footprints on the sands of time are not made by sitting down.

No man, however insignificant he looks, questions your judgment when you tell him he looks distinguished.

The greatest mistake you can make in life is be continually fearing you will make one.

Canadian Trade and Finance.

The Investment Situation in the United States.

Montreal, February 26, 1929.—The rise in the price of securities in the United States after 1921 has been explained as due to change in capital values tending to bring them in line with the reduction in value of money since 1913, or, in other words, with the increased price of commodities. It was recognized that the higher price level increased the replacement cost of plant, and that the process of discounting this change in prices was an inevitable prelude to the further expansion of industry. The realization that a large number of corporations were in an exceptionally strong position owing to the surplus accumulated during the war, and that this surplus was bound to have a favourable effect upon future earnings, was a further stimulating influence. The position of these companies was evident from the balance sheets; most well-managed corporations had reduced bonded indebtedness and other prior charges and were in a position to finance an expanding business without resorting to the banks. The increase in the value of the common stock of those companies which had had a large bonded indebtedness was particularly striking. The increase in the value of the assets represented by such bonds accrued to holders of common stock, and not to those who received a fixed income from the company. The fall in buying power of this type of income had been such as to open the question as to the relative value of fixed income securities as against common stock.

Successful Companies.

In various groups of securities new factors were found to explain the strength of individual issues. For the automobile stocks there was the explanation that new and scientific methods of management and production on an unprecedented scale had had a remarkable influence on earnings; in the instances of radio and aeroplane stocks, there were successful new inventions of major importance; and in the case of chain stores and mail order houses a new idea and a new system of distribution were competing successfully with the long-established retail trade. Although these were individual instances, they were fairly typical of the reasons given for a large number of the advances which were taking place.

Bonds and Common Stocks.

The present relatively low yield of common stocks as compared with bonds is a recognition of the fact that in well-managed industrial companies total earnings per share of common stock are about 50% greater than dividends. The income-tax presented an added inducement to investors to hold a form of security which gave promise of future earnings rather than immediate yield.

In an analysis of the basis for the revision of public opinion concerning the comparative value of participating and non-participating securities, Colonel Leonard P. Ayres claimed that lack of marketability rather than relative security, had been the factor which led the public to price these two forms of security on such a basis that the immediate income formerly derived from common stocks was greater than that ordinarily derived from bonds. With general public participation in the market, "ploughed-in earnings" are at least partially discounted by purchasers who are willing to wait for dividends.

Earning Power.

Aside from the direct financial implications of the creation of hidden reserves, the effect of this type of surplus upon industrial productive capacity has been substantial. A large proportion of the expense connected with the improvement in factory lay-out, the application of scientific methods of management to manufacture and distribution, and the maintenance of a balanced inventory has been charged to current expense rather than to the capital account. It is only in recent years, when the increase in earning power from such improvements has become an important element in security analysis, that the full worth of these hidden assets has begun to be appreciated.

Security Prices.

Again and again, as the published price averages of popular securities reached new high levels, there were predictions of calamity. It is probable, however, that the general public has a somewhat exaggerated idea of the advance which has been made. The price indices of selected groups of industrials, such as that compiled by Dow Jones, were constructed to show the trend of the most active stocks, but they gave an impetus to the general belief that the whole market was sweeping ahead at the same rate. In January 1925, the Dow Jones index of twenty leading industrials was 120; in January 1928, it was 200; and by December 1928, it had reached 300. In point of fact,

the index number representing the price of all the listed shares on the New York Stock Exchange stood at 62.45 in January 1925, at 75.93 in January 1928; and at 89.09 in January 1929. Instead of the 150% increase shown by Dow Jones, there was an advance of only 42% when the whole list is included. If the fact is kept in mind that the selected lists generally include a majority of the most spectacular issues, those for the companies which are outstanding in their particular line, the more conservative rate of advance in the general list will not be a surprise. While a general advance of 40% in four years is exceptional, there have been exceptional conditions to be discounted.

In examining the factors in the financial situation that are closely related to this prolonged advance in security prices, it is necessary to consider security supply and security demand, and credit supply and credit demand.

Sources of Securities.

In 1913, there were 521 stocks and 1,083 bond issues listed on the New York Stock Exchange. On January 1, 1928 there were 1,097 stocks and 1,491 bonds on the list. A predominant number of the new bond issues listed in 1927 were foreign. The proportionate rate of increase in new issues of common stocks has been twice as great as that for bonds in spite of the large number of foreign bond issues listed in recent years.

The advantages of the corporate form of organization have been recognized to an unprecedented extent and the ease with which the market has absorbed new issues has given a strong impetus to the conversion of private companies, family companies and partnerships into corporations. As a means to permit rapid liquidation of estates and the payment of inheritance taxes, the corporate form of organization seems particularly effective. Moreover, families who have had their entire wealth tied up in a single plant find that diversity of security holdings makes for stability and safety of income, since the earnings of such securities do not fluctuate with the rise and fall of activity in a particular industry.

The expansion of old companies has required new capital and the present widespread recognition of the value of diversified holdings has made an increased issue of stock the cheapest and most attractive method of securing additional capital. Moreover, the issue of additional common stock does not increase the fixed charges which might become a burden during a period of recession.

Demand for Securities.

On the side of demand for securities, there has been the readjustment, previously mentioned, in popular opinion as to the relative value of bonds and common stocks. The general public is buying common stocks on a scale which could not have been anticipated before the war. This public participation in the market is the most important single factor in the present readjustment. In the next place, there has been the creation of large investment trusts. Before the war, the banks and insurance companies were the only large-scale corporate purchasers of securities, and those corporations had to confine their purchases to bonds and preferred stocks. In the past three years, the new investment trusts have bought several bullion dollars' worth of common stocks. Such investment, under good management, promises a good ultimate yield, and diversity minimizes risk. The investment trust managed by investment bankers of wide experience is in a better position than the individual in placing a certain proportion of its funds in securities which show excellent future prospects as compared with immediate returns. To the investment houses making flotations of investment trust securities, the investment trust has come to represent a method whereby the house secures the permanent investment control of the stockholder's money.

Credit.

The large proportion of the total supply of gold that is now held in the United States together with the stability given to credit by the policies of the Federal Reserve Bank, has served substantially to increase public confidence in the strength of the general credit structure. There is no question but that a steadily increasing surplus of wealth is being created in the United States and that this wealth must seek investment either at home or abroad. Prior to the war, the United States was a debtor country willing to pay a substantial rate for new capital. In those days, the need for capital was sufficient so that it was profitable for bond houses to send salesmen from door to door selling bonds. At the present time, when there is a surplus of wealth for investment abroad, such expensive methods of raising capital have become unnecessary. There has not been sufficient emphasis placed upon the difference between rate of yield in debtor and creditor countries.

As a definite instance of the effect of the growing wealth of the United States upon the credit situation, there is the large cash surplus

shown in the balance sheets of most of the leading corporations. When attention was centred upon the high interest rates prevailing in the call loan market by the discussions in the financial papers, a large proportion of this surplus was withdrawn from bank deposits and placed on call. There would seem to be little danger that any great number of these companies would make a concerted and simultaneous effort to withdraw this money from the market. On the contrary in time of any great strain on credit, the increase in the rates would be sufficient to attract money of this type from new sources.

A peculiar relationship develops between the corporation and the investor when that corporation places millions of dollars in call loans in New York and later issues new stock to raise more capital. The corporation is paying dividends to the stockholder and the stockholder is indirectly paying interest to the corporation for the call money which assists him to take up the new stock. When these three factors surplus wealth, unusually favourable developments in industry, and the relative yields of comparable European securities are taken into consideration, present security prices in the United States are more easily understood. It is chiefly in relation to the yield on bonds and the rates on time and call money that present yields on common stocks seem low.

For that proportion of investment that seeks non-participating issues, there is direct competition between foreign and American securities. When the bonds of strong foreign governments may be had on a basis of relatively high yield, there is little inducement for the investor to accept a lower yield from the bonds of a home industry. This need of capital in foreign countries has raised the rates which may be expected on bonds: this is a reflection of the relative shortage of capital in other parts of the world. Whereas the investor who buys bonds must look for his whole reward in the relative stability and safety of his income, the investor who buys common stocks expects to share in the increasing prosperity of the country. The high yield obtainable from bonds reflects the world-wide need for capital. The low immediate yield on common stocks is an expression of the belief that the United States will continue to produce a steadily increasing surplus, and that the industrial concerns which are now in operation will be in the best position to take advantage of the opportunities which lie ahead.

It should not be forgotten, however, that without co-operation between central banks, there is the possibility that price levels may be upon the verge of a major decline. During such a movement, the relative value of stocks and bonds would be reversed to the benefit of the bond-holders. A fixed income would have steadily increasing purchasing power. The holders of common stocks would be the investors who would suffer from such a decline. As a means to prevent the widespread depressions which would take place during such a recession, the maximum co-operation between central banks is essential. Investors will realize that this co-operation is a matter which is of prime importance in relation to the safety of their investments in common stocks.

SUMMARY.

In summarizing the situation in the securities market from an investment point of view, it may be stated that a large number of the more favourable recent developments have been fully discounted. Under these circumstances, there is no basis for the expectation that the rate of advance of securities in the immediate future will be as rapid as in the past five years.

The investor who in paying 6, 8 or 10% interest to hold securities which yield only 3 or 4% must not make the mistake of believing that there is no upper limit to capital appreciation. In the long run, a proportionate adjustment will be established between earnings (not immediate yield) and price.

In individual instances, over-optimism may result in an excessive rise in prices, but this will result eventually in corresponding recessions. The earnings and prospects of each individual company are being subjected to close analysis and comparison with the situation in other companies in the same field.

There are a number of indices of industry which point toward a continued growth in surplus wealth, a continued substantial expansion in the earnings of many companies and, in spite of temporary recessions, these forces are likely to make the market more and more highly speculative. Where price advances in the past have been general, in the future they are likely to be based upon a shrewd understanding of the factors at work in the particular company or industry. Security analysis will, therefore, play an increasingly important part in investment management.

In all business it is the personal element and personal attention that count.

The better the service give to customers, the less it costs to serve them.

Notes from London.

British Industries Fair.

London, British Industries Fair, White City. —Not only should we not be surprised, we should not be indignant either, when a salesman says, pointing to some of his wares: "These are very beautiful: we've been selling a lot of them lately." For this is the most respectable *non sequitur* of the present day. There is no doubt also a touch of up-to-date psychological science in the non-chalant assurance with which the salesman speaks; he is bringing the pressure of suggestion to bear on his possible customer. "Forty million Britons can't be wrong," says a contemporary advertisement, so casting the lie in Ibsen's teeth; for Ibsen said: "The minority is sometimes right: the majority is *always* wrong."

A salesman at the White City picked up a tea-cup to show me, of which the only beauty, and that, only from his point of view, was its alleged popularity. The brim of this cup was so artfully twisted about that only somebody with a knack could hope to avoid spilling half the liquid contents when drinking. Every conceivable shape of pot and every conceivable decorative design for pots was to be found at the White City—except some of the simpler and better ones in each case. If one had had to choose an ingenious and fantastic set, I should have given my vote for the work of an Irish firm, the Fermanagh Pottery Company whose more delicate pieces have a pearl-like glaze inside. On the other hand, a good sensible line, I thought, was that displayed by the Pearl Pottery of Hanley: simple shapes, a blue-grey colour—not unlike that of Messrs. Wedgewood's well-known lavender ware—and not too high a glaze.

The glass in general was inoffensive. One booth showed that the influence of Lalique has not been altogether rejected by British industry but the designs themselves were very poor. Some large, round, painted flower bowls, exhibited by Messrs. Walsh of Birmingham were really attractive and the glass fittings in the special section organized by the British Institute of Industrial Art were very satisfactory.

This special section was, as might have been expected, of great interest. The most discriminating foreign critic could not, if only on its account, have left the Fair with feeling anything but respect for our industrial art. Here, in some sort of an *ensemble*, was arranged a selection of furnishing textiles, metal work, furniture and various accessories. The wrought iron garden gate by the Stepney Craft School, an agreeable piece of work, acted as an entrance to one wing of this exhibition within the exhibition. The eye was then immediately caught by what is described as a "cast iron mantel register gate," designed by Professor Lethaby. This had a fellow in the other wing, a slightly larger and equally fine grate with architectural lines and a sober pattern. Here one curtains might be seen, designed by the most versatile of our men of taste, Mr. Roger Fry. The textiles were mostly good, both those which depended on their pattern and those which depended on their sheen. The furniture, too, was on a high level, though the simplicity in which the pottery was lacking is not by itself enough to be the making of a work of art where sideboards are concerned. Messrs. Russell, of Broadway, showed a civilized bedroom suite, and Messrs. Peter Jones a set of cane-bottomed chairs and a settee which would be excellent in the appropriate environment. A dining-room table was perhaps the best exhibit of the Bath Cabinet Makers, Ltd., and the walnut sideboard of this firm was almost very good.

If an office has got to be sleek and solid, and if someone in it has really got to do a great deal of work, the claims of the biggest table shown by Messrs. Globe-Wernicke should be very strong on the selector. This massive exhibit, the absolute antithesis in spirit of the Bureau du Roi and of the seventeenth and eighteenth centuries, recaptures in its proportions the humanity which it loses in its immaculate machine finish.

A small but interesting booth was that of Messrs. Myers, a London firm specializing in ivory goods. Just as the makers of Oxford Marmalade have proved that a jam-pot can have a good shape, so Messrs. Myers prove that a shaving brush or a manicure set in ivory can be satisfying without the least effort being made to allure the eye with frills. Their wares look as "high class" as they are described to be and made the present reviewer's mouth water as much as anything at the White City.

Messrs. Ortweiler appear to have the same instinct for the intrinsic potentialities of leather that Messrs. Myers have for ivory. Their booth was not a booth, but an entire workshop, with large showrooms attached, yet in their range

of exhibits one could not find much that seemed a mere concession to popular taste or lack of taste.

The size of the Fair made it impossible for a short review to do more than touch on a few points. British toys are an interesting subject; the more elaborate ones are so good: could we not produce better simple ones? There is still more individuality in German toys than in ours.

In printing, too, we are behind the Germans: not, under the circumstances, that there is any disgrace in this. Perhaps the increasing interest in book production which may be diagnosed at home will gradually lead to our excellent typographers being given a freer hand by their chiefs. If we discourage them too much they will be off to the Continent or to America whence they are certainly the recipients of tempting offers.

Indian Economic Notes.

Motor Vehicles Suitable for Military Purpose.

The Army Department is keenly interested in the makes and types of motor lorries in general use in India and in order to encourage the use of vehicles suitable for military purposes and of standard Army types, the Government of India have introduced a scheme by which a subsidy is paid to those owners who are in possession of such vehicles and who agree to hand them over, in the event of general mobilization, on certain specified terms. The object of the scheme is to reduce the number of vehicles to be maintained in peace and to rely on subsidized vehicles in case of war. The vehicles which the Army wish to encourage in India are the 30 cwt. six-wheeled lorry or bus and the three ton six-wheeled lorry or bus. There are eleven makes and types of rigid six-wheel mechanical transport vehicles fitted with freight carrying bodies on pneumatic tyres which will be eligible for enrolment under the Subsidy Scheme and their names and description can be obtained from the Quartermaster-General, Army Headquarters, Simla. The vehicle must have been purchased within a year of the date of manufacture. It must not have run more than 200 miles since the date of original registration. The Government will, as soon as a vehicle is accepted and enrolled as a subsidy vehicle, pay the owner the amount of import duty originally paid on the vehicle being imported into India and will also pay the owner in advance every six months thereafter, so long as the vehicle is enrolled, five per cent. per annum for the first year and 7½ per cent per annum for the second and third years on the cost of the vehicle as defined in the form of agreement for enrolling subject to production of original bills in support. Prospective purchasers of this type of vehicle, who are prepared to enter into a subsidy contract with the Government of India, should communicate with the Quartermaster-General in India for further information, when they will be furnished with the detailed conditions under which the contract can be made. Demonstrations will be given to bona-fide purchasers once they establish their intention to buy one or more of these vehicles and enter into a subsidy contract with the Government of India. Applications to enter into a subsidy contract with the Government of India should state the make, type, and number of vehicles they are prepared to purchase. As the six-wheeler is new to the public of India the Quartermaster-General in India, Army Headquarters, will supply would-be purchasers with such information as they may require together with advice on the type of vehicle to suit the local needs of such purchasers.

Transport Possibilities in India.

Mr. G. K. Howard, the Regional Director for the Far East of General Motors, prior to his departure for New York on April 13th, said:—The present position of transport in the East is one of enormous interest. During the last few years there has undoubtedly been a marked change in the viewpoint and habits of the people of this country. There has been considerable expansion of the railway system and a corresponding increase in the demand for motor transportation. I am not one of those who believe that the one method of transportation is in the slightest degree inimical to the other.

On the contrary I am convinced that the welfare of both is assured by the growing recognition among enlightened Indian opinion of the need for improved highways and for the development of Indian commerce along modern lines. The huge engineering projects which have been carried out in the past in India have proved not only that modern development demands an increase in Indian industries but that agriculture, which in India is the mother of all industries, can be, and is being, better served by the introduction of Western methods.

improved transportation is one of the prime essentials of this development and one has only to go a few miles out of the great cities of India to see how a growing system of passenger buses is linking up the villages and towns. The development of road transport is to the ultimate benefit of every class in the community, because by this improved inter-communication natural produce is more easily exchanged, men and women are given an opportunity to see the world outside their own villages and the general standard of living is raised.

I do not hesitate to say that if the present rate of progress in the use of cars and passenger and goods trucks continues, within the next twenty years there will be one million motor vehicles on the roads of India, Burma and Ceylon. The "saturation" problem of which we hear in the West is, practically speaking, never likely to arise. The vast size of the country, its huge natural resources and the need of its 325 million inhabitants for easier inter-communication make a capacity for this region to absorb economical motor transportation almost unlimited.

PRIZE FOR IMPROVED PERSIAN WHEEL.

The Punjab Government (Ministry of Agriculture) offers a prize of Rs. 2,000 for the design (detailed scale drawings) of an improved Persian Wheel. *Drawings must be sufficiently* complete to enable any manufacturer to make up the wheel in all details. Competitors must observe the following conditions :—

1. The design must show a distinct advance on any Persian wheel known at the present time.

2. Durability, *lightness, easy running* and low costs will be specially considered.

3. Drawings must be submitted to the Agricultural Engineer to Government, Punjab, Lyallpur, not later than the 15th February, 1930.

Drawings will be examined by an expert of Government, and one or more designs may be chosen from which the actual Persian wheels are to be constructed for test purposes. The authors of selected drawings will be required to manufacture wheels or parts according to their drawings and the cost of their manufacture will be borne by Government, but in no case will a sum exceeding Rs. 400 be paid for the manufacture, the delivery and the erection of a complete Persian wheel at Lyallpur.

If in the opinion of Government no wheel complies with the above requirements the prize will be withheld, and if a wheel composed of improved parts from several designs sent in is approved, the prize will be suitably divided. The decision of Government will be final.

Any design winning a prize will become the property of Government.

INDUSTRIAL DESIGNS COMPETITION.

Particulars of the Sixth Annual Open Competition of Industrial Designs to be held at the Imperial Institute, South Kensington, London, in June next, are now available. The object of the competition is to encourage young designers of promise by giving them facilities for exhibiting their work and at the same time of assisting manufacturers to discover fresh talent of which they may be in search. In this way the competition is expected to be of service to the Empire by raising the standard of British Commercial Art. It will cover architectural decoration, textiles, furniture, book production, pottery and glass and advertising, and will be open to two classes—(*a*) all British subjects, and (*b*) British students in British schools of art and kindred institutions. Intending competitors in India must apply to the Secretary of the Royal Society of Arts, John Street, Adelphi, London, W. C. 2, for the necessary entry forms, etc., as soon as possible. The last day for receiving entries is May 27. In all scholarships and prizes amounting to over £2,000 are offered in connection with the 1929 Competition. Further particulars regarding the Competition can be obtained from the Director of Industries, Old Custom House, Bombay.

RURAL ELECTRICATION IN CZECHOSLOVAKIA.

In view of the contemplated electrification of the rural parts of Mysore State, the following decision of the Czechoslovakian parliament is not without interest. The total amount that the Ministry of Agriculture has already granted in all to local authorities and co-operative societies amounts to 60,000,000 crowns for electrification purposes. In 1918 the number of villages electrified was only 1,600. To-day their number is 6,400 with a population of 9,300,000. The State subsidy for electrification purposes has been increased to 35,000,000 crowns a year and to prolong it to 5 years.

CHALMUGRA OIL.

The Report on the Forest Administration in Burma (excluding the Federated Shan States) for the year ending the 31st March, 1928, states :—The Chalmugra enquiry was continued throughout the year and the determination of the constants is now complete. Professor D. H. Peacock is now proceeding with

the fractionation of the oils from various species. The enquiry has demonstrated that there is an ample supply of the tree to supply the world's demand for Chalmugra oil but the difficulty lies in getting the fruit collected. The uncertainty of the crop of fruit combines with the unwillingness of the forest population to take up the collection except at exorbitant rates to make it very difficult to organize supplies of the seed. This year for the first time there is definite record of the export of the seed and oil being recorded by the Customs Department.

LAC CULTIVATION IN THE SHAN STATES.

The Report on the Forest Administration in Burma for the year ending the 31st March, 1928, states: "Considerable activity has been displayed in the Federated Shan States towards improving the methods of cultivating and improving the lac crop. The following extract is taken from the Annual Report of the Principal Forest Officer Federated Shan States:—

"One most encouraging result of Forest Department propaganda was the increase in progress made in cleaning lac and the decrea in the amount of lac collected 'wet'. Burm lac, owing to bad methods of collection an adulteration, has not in the past enjoyed a hig reputation in Indian markets. It is hoped tha the progress referred to above will result in change of opinion among refiners. The ex perimental lac farms at Lawksawk and in th Panlaung reserve were maintained with goo results. As a result of a visit to the Shan State of Mr. N.K. Sarkar, a member of the Indian La Association for Research, Royal Exchange Calcutta, the question of starting co-operativ societies for the sale of lac has been unde consideration, the chief object being to procur for the cultivator a fairer proportion of th sale price. At the moment it is the broke who appropriates the greater portion of th profits. Investigations have been started i the Yawnghwe State with a view to ascer taining the feasibility of the scheme, whic commends itself highly to the newly appointe Sawbwa."

Topics in the Journals.

Consumption of Cigarettes in India.

Arresting figures showing the growth in popularity of cigarette smoking in India during the last ten years are given by the Imperial Economic Committee in their Tobacco Report published by the Stationery Office.

The annual consumption of cigarettes in India is now about 6,500 million, compared with under 1,000 million before the war.

The expansion of the world's consumption of tobacco, the decline in popularity of pipes relatively to cigarettes, the striking increase in the demand for Empire tobacco and the general recent improvements in its quality are among the main points discussed by the Report. The problems facing those responsible for the future of the still small but important Empire tobacco trade receive detailed attention in this survey. In India the annual consumption of cigarettes is now about 6,500 million as compared with an annual figure of somewhat under 1,000 million pre-war. The cigarette is thus at present advancing in world-wide favour, but the consumption per head appears to be highest in the United Kingdom. For the years 1909 to 1913 the average annual world production of leaf, excluding India and China was estimated, states the Imperial Economic Committee, at 2,304 million lbs. For the years 1920 to 1922 this average was placed at 2,673 million lbs. and in 1926 it is computed that 3,415 million lbs. of tobacco leaf were harvested.

INDIA AND CHINA.

Unfortunately equivalent figures for the earlier years are not available for India and China, for which two countries the crop in 1926 was estimated at 1,485 million lbs. If this quantity be included, the estimate of the total production of tobacco in the world in 1926 was 4,900 million lbs.

The United States of America and the British Em pire provided approximately half of this world tota Empire countries contributing to this quota were, i the order of their output, India, Canada, Union o South Africa, Southern Rhodesia, Nyasaland, North ern Rhodesia, Australia and Cyprus.

In the international trade in tobacco the Empire does not, however, occupy such a prominent positio as the quantity of its production would suggest, fo some of the countries which are the largest producer of tobacco are also the largest consumers. This i especially true of India and China. Only somewha over one-fourth of the world crop—1,240 millions ou of 4,600 million lbs. in 1925—entered internationa trade channels, the rest having been consumed in th countries of production.

TRADE EXPANSION.

Whereas the Empire only supplied 7½ millions out of the 228 million lbs. imported into the United King dom in 1921, it supplied 41 millions to the 1927 tota of 222 million lbs. Further, 7 out of the 7½ million lbs. of Empire tobacco imported in 1921 were drawn from Nyasaland, India and British North Borneo.

Between 1920 and 1924 the consumption of Empire tobacco expended at a rate of 1,650,000 lbs. a year, and between 1924 and 1927 at a rate of 3,200,000 lbs, a year. British manufacturers withdrew from bond 1,546,000 lbs. of Empire grown tobacco in 1919 as against 22,793,000 lbs. in 1927.

"We believe," the Committee continued, "that, given on the side of the producers increased experience in production, strict attention to the quality of the crop and the requirements of the British market, and, given, on the side of the manufacturers and British

public, cordial support for Empire products, a still greater rate of increase could be established."

Who Invented the Match?

In Fairfield Road, Bow, London, E., there is a vastly interesting but little-known museum devoted entirely to the story of man's struggles down the ages to preserve to himself those most blessed gifts of the gods—fire and light. In many thousands of exhibits the tale is graphically told, and Messrs. Bryant and May, in whose offices the museum is to be found, have been at pains to present the collection in strict chronological order and logical array.

It is said to be the most complete collection of its kind in the world, a boast that no one who had seen it would deny. For many years a private collector, Mr Edward Bidwell, now over eighty, industriously assembled most of the exhibits, others have been added, other collections embraced, until now the detailed catalogue prepared by Mr. Miller Christy, an authority on the history of fire-making appliances, already comprises over 250 pages!

Primitive Fire-Making.

In the show-cases ranged round the large and airy gallery you observe the gradual climb of our early ancestors from the wood-friction methods as seen in the laborious fire-drills, fire-saws and fire-ploughs, which were probably the earliest instruments devised by primitive man, to the flint-and-pyrites method that marked the Stone and Bronze Ages. This latter consisted of obtaining sparks which lighted tinder by striking a nodule of the common minerals iron-pyrite with a pointed flake of flint. This method is still employed by certain Eskimo tribes.

The flint-and-pyrites method waned when, about three thousand years ago, man discovered the art of smelting iron, a progression that resulted in the modern potent flint-and-steel method which persisted, in slowly improving forms, up to around the year 1835, and, in fact, is still practised by South European peasants and many semi-civilized peoples. Steel and flint have often been found in burial-mounds clasped in the hand of a dead warrior ready for immediate use to lighten his way when he awakes in the world beyond!

The Tinder-Box Era.

The museum shows how packed were the three thousand years preceding the arrival of the "instantaneous match" we know to-day with the ingenious efforts of inventors of the world. Although the flint and steel were basic necessities in all such designs, the variety of form and materials was unlimited. Tinder-boxes of wood, horn, metal and bone are shown by the score fire-steels of every pattern, some beautifully wrought, and in the case of Eastern specimens, richly adorned with jewels and engraving; tinder-boxes for the pocket as small as snuff-boxes and as beautifully carved; tinder-bags and pouches for the early smokers; tinder-pistols, often the work of famous gunsmiths (there are over a hundred of these collected in a number of countries; they were extensively used in the seventeenth and early eighteenth centuries); burning lenses, in some cases, inserted in the lid of a tin of tobacco!—these are representative of the exhibits of the "Tinder-Box Era".

Mechanical-minded wizards of that period produce many ingenious devices, if somewhat *a la Heath Robinson* in conception. Such was the tinder-box pistol that was fired by an alarm-clock. The alarm fired the pistol and ignited a pinch of gunpowder, which in turn lighted a candle that had sprung from inside the box! Another was intended for sluggards. Patented in 1824, it consisted of a piece of string passing over a pulley attached to the stopper of an acid bottle. As you lay in bed you pulled the string, lifting the stopper, which applied a spot of acid to a crude sulphur match, which rotated on a wheel until it came next to the wick of a spirit lamp which if everything went according to plan, gave you your light!

The First Match.

This acid device, or "Portable Fire Box" as it is called, was one of the earliest forms of "instantaneous lights," and was invented in Italy in 1786. Similar to it was the "Promethean Match" patented by Samuel Jones, of the Strand, in 1828. A minute quantity of sulphuric acid sealed in a tiny glass vesicle surrounded by a compound of chlorate of potash, was enclosed in a paper spill. When the glass vesicle was broken either by the hammer supplied with the "match", or with the teeth, the acid inflamed the potash and ignited the paper.

Despite the many claimants, the honour of inventing the first real "friction match" of the kind with which we are familiar to-day belongs to John Walker, a Stockton-on-Tees chemist. In 1826 he was selling his friction lights for a shilling for a hundred, and twopence for the box. The match was pressed between the fingers in a piece of sand-paper.

By 1834 the "Lucifers" and "Congreves," which were the first phosphorus matches, were in common use to be followed later by "Fuzees," "Vestas", "Vesuvians", and "Safeties". They had many disadvantages. A strong sun, or a sudden blow, would be liable to ignite the box. More than one label in the museum warned purchasers that, owing to the poisonous fumes, no one with weak lungs should strike the matches! The harmless red phosphorus of modern "strike anywhere" matches arrived in 1898, though the noxious yellow phosphorus with its peril to worker and consumer was not legally banned until 1910.

Pictorial Labels.

The museum also contains scores of match-box labels of different countries that must surely be unique. Foreign covers are shown with famous "beauties" reproduced upon them in gaudy colours; others bear bird and flower designs; while some, like that showing the meeting of Dr. Livingstone and Stanley, suggest that match-boxes once supplied belated pictorial news to patrons.

If written application is made beforehand to the company, the exhibits may be seen free of charge.

Indian Weights and Measures.

The Royal Commission on Indian Agriculture has done well to direct attention to the urgent need for standardizing weights and measures in India. This is a reform which is long overdue. It has been talked about for many years, but it does not come; and Indian weights and measures remain in what the Commission described as "a chaotic condition". This description is not a bit too strong. In fact the word "chaotic" is hardly a strong enough description of the existing muddle. The report quotes several instances of unnecessary complications created by the present absence of system. For

example, in one district of the Bombay Presidency a single unit of weight—the maund—has thirteen different values ranging from $21\frac{1}{2}$ *seers to 80 seers. It must not be supposed* also that such divergencies are known in the Bombay Presidency only. The example quoted is typical of all the provinces, and the Commission rightly points out that "innumerable other examples of a similar character could be cited". Such a state of affairs is of course opposed to the interests of the cultivator, because it gives unscrupulous dealers and others most excellent opportunities of cheating him. Nor is the evil resulting from it confined to the cultivator. Commercial transactions are hampered by it, and it is in every way unsatisfactory.

For many years past the Government of India have been alive to the importance of attaining uniformity. Indeed, as far back as 1871 they legislated with this object in view. By the Act which they then adopted—the Indian Weights and Measures Act, 1871—the Governor-General is empowered to introduce a system of weights and measures of capacity consistent with a statutory unit, which is defined as being a weight to be called a *ser* and to be equal to the kilogramme. But no Governor-General has ever attempted to put the Act into force. It was hoped at first that the weights and measures based upon the statutory unit would be gradually adopted without intervention on the part of the Government. But this hope has never been realized. All that has been done is that the Indian Railways and various Government Departments have adopted as standard the tola of 180 grains, the seer of 80 tolas, and the maund of 40 seers. Between 1890 and 1894 the Government of India consulted the local Governments on the question, and it was agreed that, as the necessity might arise attempts should be made to prescribe for particular districts, or groups of districts, standard weights and measures similar to those adopt*ed by the Indian Railways and the Government De*partments. But when reviewing the question in 1913 the Government of India said *that although* some of the local Governments had taken action in this direction the then existing state of affairs was far from satisfactory. They were convinced that the lack of uniformity was seriously *prejudicial to trade*; and they thought that the development of commerce and of railway communications, and the advance of municipal and trade organizations had gone far to remove *the objections which had been formerly raised to the* introduction of a single uniform system. Holding this view the Government re-opened the question and appointed a Committee to investigate it.

The Committee made an exhaustive inquiry, coming finally to the unanimous conclusion that the desire and the necessity for the establishment of a uniform system were widespread. As regards the particular system to be adopted the members of the Committee were not unanimous; one of them advocating the introduction of the metric system, and the others the Indian railway system which is explained above. The majority likewise made recommendations for standardizing various measures of length, area, capacity and cubic content. After the publication of the report the Government of India again consulted the local Governments, but no definite steps in the way of introducing uniformity were taken. And at the present time, as the report of the Agricultural Commission says, "matters remain much as *they were prior to the appointment of* t Committee". It is greatly to be hoped that the Commi sion's strongly expressed recommendation for a r examination of the question with a view to action, w be *accepted. Admittedly there* are difficulties in th way of successful introduction of uniformity. B these ought not to be insuperable. It is possible th there might be some disturbance to trade at first; an *the time would therefore* have to be allowed betwe the prescription of the new system and its enforcemen The Committee of 1913 suggested that the chang should be made gradually, the new uniform syste *being applied* first to the large centres, then to th more advanced rural areas and finally to the less ad vanced, excepting for a number of years special backward tracts. Under the scheme it would *within the discretion* of the local Governments select the areas and to decide when and how ea advance should be made. The Agricultural Comm sion recommends that the Government of India shoul lay down general principles to which the provinci governments would adhere as far as possible witho due interference with local trade custom. The Con mission makes no recommendation as to the particul system to be adopted. There are two systems whi have been seriously suggested in the past, namely, th metric and the Indian railway system. Opinion i India has not so far greatly favoured the metric systen seeing that it is not in force in the United Kingdom o the United States. But it is probable that conside able support would be forthcoming for the India railway system which is based on the tola of 180 grain Under the system the maund would weigh $87\frac{1}{2}$ lb avoirdupois or 40 seers. The only weight, which is a present more or less generally known throughout India is the tola of 180 grains which is in fact the weight of newly coined rupee. It is, therefore, as the Committe of 1913 recognized, a unit which is likely to be a reason ably good foundation upon which to construct a un form system.

A Case for Khaddar.

"We conquered India as an outlet for th goods of Great Britain," said Sir William Joyso Hicks, one of His Majesty's Ministers. "W conquered it by the sword, and by the swor we shall hold it. I am not such a hypocrite a to say that we hold India for the Indians. W hold it as the finest outlet for British goods i general, and for the Lancashire cotton good in particular." Writes Mr. C. Rajagopalachar in the *National Christian Council Review*:—

What is the national consequence of this extensiv business that Lancashire has established in India, an means to retain at the point of the sword? It is no thing less than distress and semi-starvation sprea over an area of over a million square miles, consistin of 700,000 villages. The people affected by this chroni *distress number over 230 millions.* The above state ment may appear strange. How can the supply o cheap cloth from England be the cause of distress i India? Until the year 1800, ninety per cent of th people in India were *employed not only in agricultur* but also in spinning all the yarn that was wanted fo the clothing of the people. Agriculture is the work fo only a portion of the year, often but a small part. The rest of the time was utilized in the production of yarn from the cotton grown in the country which the hereditary weaver castes wove into cloth. When machine-

made yarn from England replaced this handspun, the supplementary occupation of the peasant families was destroyed. Without any substituted industry suitable for their condition, the result was enforced idleness and chronic poverty and semi-starvation. There is not a single publicist, including high government officials, who does not admit the extreme poverty of rural India which consists of ninety per cent of the total population. The average income of Indians is estimated at from one and a half annas to two and a half annas per day, and it will be readily admitted that even the most optimistic calculation is far below the minimum level of subsistence. This is the average, but in large areas the mass of the people are in a permanent state of helpless destitution. Side by side with this poverty, there is widespread unemployment. This unemployment is not like that found in European countries where a minority is temporarily out of occupation. Here the people are as a body unemployed for a large part of the year, varying from three months in irrigated areas to over six months in the dry cultivation areas. If we wish to improve the condition of our peasantry, we must give them back the additional occupation that they have lost. We must guard both food and cloth against encroachment, and give to our peasantry the right to produce both these necessary articles. The *khadi* movement tries to restore this rural economy which is indispensable for the economic reconstruction of Indian life.

It may be considered that in an age of industry it is impossible to revert to past conditions, and that it is, even if possible, undesirable. It is true that the substitution of power for human labour must produce a redistribution of work and a change in social conditions. In countries where circumstances favour a readjustment, no permanent distress follows as a consequence; and if there is an adequate world market for the products of power, not only does the whole population find employment but everyone earns increased wages. In India, however, such is not the case. The conditions prevailing in this country do not permit its agriculturist population taking to other pursuits. There is no possibility of industrializing India in the sense in which England has been industrialized. Labour-saving appliances are good where labour is really saved for the worker. But what happens here is not saving of labour but unemployment and starvation. If the State were socialistic it is conceivable that the benefits of labour-saving appliances may be distributed among the whole population; but, as things are, these labour-saving appliances save money for the capitalists and make unemployment for the poor man.

If we consider the history of Indian industries and reflect that after a hundred years of industrialization the total number of industrial workers in all India is under one and a half millions as against 230 millions depending on rural agricultural work, it will be found that the alternative to the revival of cottage spinning is continued idleness.

The critics of the spinning movement have not been able to suggest any alternative cottage industry which might be a supplementary occupation to the agriculturists. Fifty million peasant families can be put to work only at an indispensable necessity of existence; and next to food, only cloth is such a necessity. Some men, notably missionary bodies, imagine that they help the solution of the problem of rural unemployment by organizing industries such as carpentry, bee-farming, tailoring, knitting, embroidery work, weaving of machine-spun yarn, etc. Where the industries are new ones, they are of so little scope that they can never be hoped to go far enough to solve the rural problem. Then, again, some of these industries seem to pay very well indeed, but they supply the needs of a few people and can never be hoped to be taken up by the teeming millions. Some seemingly successful efforts, like cabinet-making and weaving, can only help individuals and particular groups of people by taking away business from other individuals and groups. Such enterprizes have no value in regard to the solution of the national problem which can only be solved if we find work for the agriculturists such as would produce articles not now produced in India and which are needed by the nation in large quantities.

In this connection, it may be well to pause and remove a certain persistent confusion between weaving and spinning. The making of cloth from yarn is the work of a trained artisan, and in India is done by the various hereditary weaving castes. It was never and cannot, at any time, become the universal supplementary occupation of the agriculturists. Each handloom wants the skilled labour of a family, and there is no lack of *hereditary weaving families in India*. Each loom wants no less than a dozen spinners at work to make the yarn. It is this spinning that was, and can again become, the universal supplementary occupation for the families whose main occupation is agriculture.

The Agricultural Commission probably gave up the problem as insoluble. It has refused to explore the possibilities of spinning. *Khadi* workers are not indifferent to agricultural improvement or the growth of co-operation. They claim, justly, that it is due to their propaganda that attention has been diverted from the towns to the condition of rural folk. They would be the first to welcome all programmes that really go to help the peasantry. But often improved agriculture and co-operation and other smaller industries are trotted out not so much as effective policies in themselves, but as defences against *khadi*. It is obvious that hand-spinning is no rival either to improved agriculture or any other more profitable industry. It is offered only to fill idle hours and off-seasons where there is no more profitable occupation.

So far the argument holds for normal times. But in famines, spinning is really the best and perhaps the only mode in Indian conditions to give relief to the people. The *a priori* case for *khadi* is overwhelming, and it is the object of the All-India Spinners' Association to demonstrate the above proposition in practice.

The *khadi* movement had its birth in 1921 as an integral part of a great national upheaval. While this gave it a start among the nationalistic section of Indians, it also prejudiced it in the eyes of foreigners and those classes of Indians who depended on connection with Government. Now that the movement stands on its own legs and is governed by an independent non-party organization, namely, the All-India Spinners' Association, it is hoped that it will get a just consideration from all those who are interested in the economic uplift of the Indian masses. Within the last six years, the Association has been able to give work to 60,000 spinners, distributed in about four thousand villages and is annually producing and selling Rs. 24 lakhs worth of *khadi*. This is no small demonstration of the vast possibilities of spinning. The required facilities are found everywhere. Every province grows cotton; every cottage contains one or two possible *spinners; and in many areas the tradition, and even* the practice, of spinning still survives.

It is, no doubt, true that the work is difficult and requires great effort and patience. But these are necessary for any work in India. It is not possible to start any industry in India which does not require a

great deal of careful nursing and protection. Even the great Jamshedpur Steel Works are unable to work under free competition. Khadi, too, will require some protection for growth, and, so long as no alternative industry to supplement agriculture is possible, it is obviously the duty of every well-wisher of India to support it, irrespective of political or other considerations.

But *Khadi* is coarse, costly and not durable. How can we prefer it to cheap, uniform machine spun cloth of fine finish and appearance?

There must be these initial difficulties in a movement of revival of a lost industry and they can be met only by a spirit of *patriotic sacrifice* among the classes of the people that are comparatively well off. For the sake of giving occupation to families that would otherwise go without a full meal, we *must* wear coarse cloth, if only such can now be produced by their labour. Indeed, if the object of encouraging such a cloth is realized, what is coarse may well be deemed the only gentleman's cloth.

As for cost, hand made goods are in all countries more costly than machine goods. But the extra cost is little in comparison with the national benefit. Our infant industry is of the greatest national importance, but we have not a Government willing to protect it. The people's patriotism must supply the protection that the State refuses to give.

To pay for and buy *Khadi* instead of mill cloth is national service and reconstruction work. Such service involves sacrifice. No nation can solve its problems and better its position without sacrifice on the part of those of its classes that can afford it. Emancipation cannot come of itself or be had without paying the price for it.

As for durability, we are apt to be prejudiced by the experience of cloth produced by raw hands. Mr. Rivett Carnac wrote in 1870:

'Machine made piece goods have not been able to drive out of the field the stout, serviceable country cloth which stand the smashing of the native washerman and keep out the sun, rain and the cold.'

Our spinners are producing better and better yarn and the experience of people who wear *Khadi* produced now shows increasing durability.

The tastes in favour of finer finish and varied colours, so far as they can be satisfied only by causing unemployment among our millions, can only be deemed a *vulgar fashion of unthinking slave mentality*. Refinement can never consist in a desire for things that do harm to the nation, of which we are a part. Fashion and national good must ever be the same in a truly civilized community.

Indian Agriculture and Indian Peasants.

The place of honour is given in *The Indian Journal of Economics*, October 1928, to an article by Prof. G. Findlay Shirras in which he reviews the Report of the Royal Commission on Agriculture in India. Some of his observations are summarized below :—

Land tenures in many parts of India are precarious. The Permanent Settlement has enriched a class in Bengal and elsewhere whose contributions to the budget is fixed. But it has not conferred the advantages hoped for to the tenants in 1793. This has deprived Government desirous of spending on the nation-building departments the sums so necessary, from its increasing land revenue. Efforts should be made that with an increased production, the landlord will not take a disproportionate share in the *results of improvements made by the cultivator. A greater security of tenure and at least a temporary fixation of rents in certain areas would give the tenant* cultivators a greater incentive to improve their lands.

Illiteracy is the root of all evil in India. The percentage of literacy among the total population of 20 years and over is but 17.1 for males and 2 for females. The resources in personnel and money which are available are entirely unequal to the task of universal education. The only hope of substantial progress lies in mobilization of all available forces, both public and private, in a determined attack on illiteracy. The heart of the problem is the spread of literacy among women and the introduction of compulsory primary education to be measured by decades.

The peasants' great hope of salvation, the Commission rightly believes, lies in the extension of co-operation based upon careful education and scientific training. In the view of the Commission the progressive adoption of compulsory education is the best basis for co-operation. The spread of literacy among women will result in lasting literacy among the young. Wherever possible, the policy of establishing 'central' schools should be adopted and 'single teacher' schools converted into 'branch' schools. Teachers should be recruited to the utmost practical extent from men of rural origin and upbringing.

Indian veneration of cows has startling economic results. The annual economic loss caused by 25,000,000 superfluous cattle is more than 4 times the land revenue. There is a great reluctance for religious reasons to kill animals and thus the animal world is not kept in its place. The average loss of grain and fodder from animal depradations was from 10 to 15 per cent of the total yield. Thus monkeys, pigs, peacocks, *porcupines, etc., are permitted to consume what ought* not to be consumed by them. It must be left to Hindu theologian to discover a solution of the conflict between economics and transmigration.

Several important recommendations are made in regard to the diseases of live-stock, to seed distribution and seed-testing and to the necessity of bringing by demonstration the results of research into the heart of the village. Other recommendations deal with the subdivision and fragmentation of holdings, irrigation, markets, co-operation and the evils of the money-lender.

No real progress is possible in agriculture without full and accurate statistics and the value of these statistics both to the farmer and the trader is universally recognized. If the Council of Research is created, *it will, like other bodies, be engaged in the problem,* require statistical information, and the value of an efficient central department to the provinces is also clear. It is to be hoped that a statistician of first rateability is appointed at the head of a Bureau of *Statistical Information with the administration of* which leading economists, scientists and business men would closely co-operate.

The solution of agricultural advancement is the realization by the peasant of the possibilities of *improvement by official action aided by sympathetic* educated opinion. The Commission, however, adds that 'we have no hesitation in affirming that the responsibility for initiating the steps required to effect this improvement rests with Government.'

Anything is impossible if you make up your mind that you cannot do it.

Mysore Economic Conference.

Board of Industries and Commerce.

The following is a summary of the Proceedings of the Nineteenth Meeting of the Board of Industries and Commerce held on Tuesday, the 19th March 1929, at 1 P.M., in the Legislative Council Hall, Public Offices, Bangalore, with Rajakaryaprasakta Dewan Bahadur Mr. M. N Krishna Rao, B.A., First Member of Council (*Chairman*), in the Chair :—

The Report submitted by the Committee appointed at the instance of the Economic Conference to go into the question of Organizing Financial Assistance to Industries and referred by Government for the opinion of the Board on the recommendations made by the Committee was taken up for consideration and the proposals given in the Summary attached to the Report on pages 34 to 36 were discussed.

Need for Legislation.—The recommendations of the Committee proceed on the assumption of the need for a legislative enactment to regulate this matter and the question of legislation was, therefore, first considered. Mr. V. L. D'Souza, one of the members of the Committee, explained that in the terms of reference to the Committee there was no allusion to legislation but it was taken as implied, as some of the British Provinces had enactments for the grant of financial aid to industries. He thought there was no need for any legislation on this subject and the Board for administration of financial aid to industries recommended by the Committee need not be a legal body. Mr. K. R. Srinivasa Iyengar observed that this question had been considered in the past and it had been held that there was no necessity for legislation and that there were no reasons for holding a different view now. The Director of Industries and Commerce stated that the object of the Committee in suggesting legislation was to make the Board for administration of financial aid to industries a statutory body and added that in British India some Provinces had enactments while others had not for the grant of State Aid to Industries and that the United Provinces which had done more work in this respect than other Provinces had no law on this subject. He was also of opinion that there was no need for legislation in Mysore and that it would be better to regulate this matter by executive orders suited to the conditions as they stand from time to time.

The Board resolved that there was no need for any legislative enactment for regulating the grant of State Aid to Industries.

Definition of "Industries to be aided."—The Board was of opinion that the definition suggested by the Committee might be generally accepted and that deserving cases not coming under the categories of either Industries carried in Industrial Establishment or Cottage Industries may also be afforded financial assistance.

Control over External Capital.—Mr. Nye and Col. Barton thought that the recommendation of the Committee that "no State Aid should be given to an industrial establishment unless a fair proportion of the capital is owned by persons who are Mysoreans by birth or domicile and unless a fair proportion of the personnel of the Management is recruited from among the nationals of Mysore," might retard the industrial advancement of the State if local capital and local industrial leadership did not take interest in promising concerns.

The Board resolved that, as a general rule, the recommendation of the Committee was the right course to follow and that in any rare case of need for permitting, in the interests of industrial progress of the State, external capital unassociated with local capital to undertake a concern, a departure from the general rule might be allowed.

Methods of Financial Assistance.

Limit of Loans to Concerns.—The Committee had recommended that the amount of a loan to a Joint Stock Company may be up to 25 per cent of its net assets, subject to a maximum of 1 lakh of rupees and that in all other cases it may be up to 50 per cent of net assets. Some members thought that these maxima limits might be found to be unduly restrictive in the case of large concerns.

The Board resolved that the proposal of the Committee was sound as a general rule and that the need for a deviation from it would arise only in exceptional circumstances and such special cases have to be dealt with on their own merits as they arise.

Appointment of Government Director for Concerns receiving Government Aid.—The Committee recommended this measure "to ensure some control over the conduct of business" concerned. The Board considered that a Government Director's chief duty should be to safeguard the interests of Government and that it was not desirable to stress his responsibility for the general conduct of a business, which should largely devolve upon the Directors elected by shareholders.

Rate of Interest to be charged on Loans.—The recommendation of the Committee that the rate may not exceed 6 per cent is "under existing conditions" and on this understanding, the Board thought that the recommendation might be accepted. The Board was also of the opinion that the concession to be allowed in exceptional circumstances might be reduction of interest and not necessarily full remission of it.

Cash Credit.—This is one of the very important recommendations of the Committee and was, therefore, the subject of considerable discussion. Mr. D. S. Mallappa stated that he was in favour of the Government guarantee arrangement but that the amount to be guaranteed should be limited and covered by an amount to be set aside for meeting the loss likely to result from these transactions. Mr. Nye thought that the amount to be earmarked for this purpose should be equal to the amount guaranteed. Mr. K. R. Srinivasa Iyengar considered that the suggestion of the Committee did not provide for sufficient interest on the part of the Bank in the credits allowed as, according to this arrangement, the entire risk of loss was thrown on Government. Mr. Sampath Iyengar did not see any need for the intervention of any Bank in this business at all considering the fact that the transaction was really by Government and the loss resulting from it was also to be borne by them. Mr. V. L. D'Souza observed that the provision of current finance in the form suggested by the Committee was essential for many small industries and that it was therefore necessary to arrange for cash credits with Bank. The Director of Industries and Commerce stated that it was not right to assume that the Bank would not take adequate interest in this business as the enlargement of its clientele, the expansion of its business and the

prospect of itself conducting this work without any Government guarantee, in view of the higher rate of interest it would get if it dealt with this business directly, would operate against the assumption. He, however, thought that one modification might be made, *viz.*, that the Government guarantee need not be for the entire loan and interest but that the loss resulting from these cash credit transactions might be shared between Government and the Bank. Col. Barton thought there was no *quid-pro-quo* to Government for taking over the entire liability on themselves and affording the Bank absolutely safe employment for its funds. The view was also expressed that the Committee's recommendation was not clear as to when a loss on the working of a concern for its transfer to Government should be calculated and if for periods for which Balance Sheets are made up, whether all losses should be borne by Government while all gains go to the Proprietors of concerns. Whether the responsibility for watching and enforcing recovery of loans should devolve on the Board or on both the Board and the Bank was another point raised in the course of discussion.

Is Association with a Bank necessary in providing current finance to Industries.—The Board was of the opinion that it was necessary to have the co-operation of a Bank in arranging for the supply of working capital to industries in the form of cash credits.

What Provision should be made for meeting losses involved in guaranteeing Bank Cash Credits.—Some members stated that ordinary banking experience was that 10 per cent of loans would prove bad debts. Mr. D. S. Mallappa thought that the proportion in the case of loans for industries should be placed much higher, say 50 per cent. The Board considered that the experience of Banks and of Government, if any, in this respect, should be consulted and the required proportion set aside for meeting losses.

Rate of Interest on Cash Credit Loans to be charged to Borrowers and to be allowed to Bank.—The following members were of opinion that in the interests of industrial advancement, current finance should be provided as cheaply as possible and that accordingly borrower should be charged only the guaranteed rate and not anything extra to be used as a margin for Government to cover losses to be borne by them under the guarantee conditions recommended by the Committee.

1. The Director of Geology.
2. Mr. M. Ramachandra Rao Scindia.
3. Mr. G. Subba Rao.
4. The Industrial Chemist.
5. Mr. D. S. Mallappa.*
6. ,, F. M. Abdul Kuddus.
7. The Chief Conservator of Forests.

The following members were in favour of charging a higher rate as proposed by the Committee :—

1. The Director of Industries and Commerce.
2. Mr. T. Nanjappa.
3. ,, K. R. Srinivasa Iyengar.
4. Col. Barton.
5. The Superintendent of Sericulture.

Other Forms of Assistance.—The Board agreed with the Committee in regard to the other forms of assistance and considered that "electrical energy" might also be supplied at concessional rates in deserving cases.

Machinery for Administration of State Aid.—There was no need to consider the question of having a Statutory Body as the Board was not in favour of legislation.

The Board resolved that there was no need for a separate Non-Statutory Body even, and that a Sub-Committee of the Board of Industries and Commerce might be entrusted with the duty of examining and reporting upon all applications for financial aid to industries beyond the powers of the Director of Industries and Commerce and that its recommendations be placed before the Board of Industries and Commerce. Applications for such will be made to the Director in the usual course and go before the Sub-Committee with his remarks. The Sub-Committee may co-opt other members of the Board of Industries and Commerce or others who are likely to assist in the performance of its work in respect of particular applications. The work of the Board and its Sub-Committee may continue to be advisory as hitherto.

Procedure for Grant of State Aid.—The Committee's proposals were generally approved.

Funds for affording State Aid to Industries.—The Board resolved to recommend a non-lapsable annual grant of 3 lakhs of rupees for the grant of all kinds of financial aid including the grant of loans and provision for meeting losses on cash-credits guaranteed and to such contributions being formed into a Fund as recommended by the Committee.

The Board was not in favour of any of the new taxes suggested by the Committee to add to the resources of the Industrial Development Fund.

We cull the following from the Administration Report for the year 1928 :—During the year, the Government Stoneware Factory confined its activities solely to the manufacture of Minton tiles, fire bricks and glazed wares. The total number of Industrial Schools, Government and aided, was 35. As usual, the two Government Trades Schools taught boys and girls in Industrial and Commercial Arts, rattan making, weaving, carpentry, and smithery. There was an increase in the number of Rural Industrial Schools. Now there are 19 schools with a strength of 1,168 pupils. The Girls' Industrial School imparted instruction to 338 girls in needle-work, embroidery, pillow lace, crochet lace, knitting, music, drawing, canvas, rattan and mat making.

The Government of Mysore have sanctioned the proposals of the Director of Industries and Commerce for granting loans to Industrial and Agricultural concerns on more liberal terms than before. These loans will facilitate purchase and erection of machinery for agricultural or industrial undertakings, for the construction of wells or tanks, of mills, warehouses, etc., and for the provisions of raw material, working capital on appliances other than specified The Director is empowered to sanction loans up to Rs. 2,500 ; the Government up to Rs. 10,000 and loans above this will be sanctioned by Government in consultation with the Board to Industries and Commerce. The rate of interest charged has been reduced to 6 per cent.

Books in Brief.

Short Reviews of Recent Books.

Law Applicable to Christians.

By Paul Appasamy, M.A., LL.B., Judge, City Civil Court, Madras. C. L. S., Madras. Rs. 2.

Mr. Paul Appasamy has rendered a very useful service to the country, and to Christians in particular, in bringing out this edition of the Law relating to Christians in India. So far as we are aware this is the first compilation of the kind, and the learned author has carefully collected the several enactments and legal principles, and collated the same and explained everything with his usual perspicuity. It is a difficult task to compress within *the limits of a 300-page publication* the entire law of the country, and it is a feat which the author has successfully accomplished.

The attempt to expound the law bearing on conversion of non-Christians to the Christian faith and the risks which have to be avoided by enthusiastic missionaries is commendable, and should greatly diminish causes of friction. The chapter relating to succession, testamentary and intestate, and administration of estates contains very useful suggestions and instructions. The portions relating to Christianity and courts and the ecclesiastical personnel are interesting and we would specially commend the same to non-Christians who would thereby be enabled to understand the inner working of the Christian fold.

The book is not intended for the practising lawyer, but for the laymen and more especially to Christian missionaries who cannot command the time or equipment to study and master the laws in all their bearings and we have no doubt the book will be greatly appreciated by those for whom it is intended.

The Modern Case for Socialism.

By A. W. Humphrey, Author of "A History of Labour Representation," etc. Messrs. George Allen & Unwin, Ltd., Museum Street, London. Price 12*sh.* 6*d.*

Mr. Humphrey deserves to be congratulated on the eminently readable book he has produced on a subject of great current interest. He states the "Modern Case" for socialism in a manner at once realistic and convincing. The chief merit of his book is its authoritative and luminous handling of topics which, in inferior hands, are apt to be treated in rhetorical manner. His array of facts and figures drive home the principles he enunciates. As an up-to-date exposition of the Socialist standpoint his book will assuredly take first rank. If any one has any doubt as to this remark, he has only to look to its contents and the list of authorities quoted by him. A book of this kind giving a practical, statistical basis to socialistic theories, has long been a desideratum. The chapters on the "Division of Wealth" and "Democracy in Industry" are sure to kindle interest in socialism even among its avowed opponents. So thoroughly well written and well supported are these chapters that they deserve singling out for special mention. None interested in current politics, East or West, can do without a copy of this admirably written book.

Trade and Credit.

By R. G. Hawtrey, Author of "Currency and Credit," etc. Messrs. Longmans Green & Co., London, Bombay and Madras. Price 10*sh.* 6*d.* net.

We have, we confess, a predilection for Mr. Hawtrey's writings. His lucidity is beyond praise; his suggestiveness impressive; and his selection of topics admirable to a degree. In the present work he devotes a good part to the machinery of credit and the remainder to a consideration of the trade cycle, and particularly the monetary theory of the trade cycle. We have read, in the first part, with great interest the essay on the functions of a Central Bank. The other essays in this part deal with the Gold Standard and the Balance of Payments. A matter to which we would draw pointed *attention in* regard to Mr. Hawtrey's essay on the functions of a Central Bank is the frankness which characterizes it. His remarks on its relations to Government, for instance, fully bear out what we have said. "As a safeguard against inflation," he says, "no reliance can be placed upon the independence of a Central Bank. Whatever the law may say, the Central Bank will lend to the Government in an emergency." A book that should be in the hands of every one interested in Practical Banking in this country, more especially as development of Banking in this country is one of current interest in it.

The Trade of the Indian Ocean.

By V. Anstey, B.Sc. (Econ.). Published by Messrs. Longmans Green & Co., London, Bombay and Madras. Price 8*sh.* 6*d.*

This is a welcome addition to the University Geographical series issued by Messrs. Longmans Green & Co. Its scope is explained by Professor A. J. Surgent, Professor of Economics in the University of London, in an interesting introduction he has contributed to it. "It contains," he says, "within its circuit the most varied types of people in different stages of economic development." He finds the justification for treating as a whole regions lying thousands of miles apart in the economic factor which is common to them. "Down to the present *time," he says, " the whole area in its modern* development has depended on European capital and ultimate economic control. It is true that such capital has been invested in many other regions, and the plantation system is not peculiar to the Indian area; but the elaborate organization of production and trade financed from Europe and controlled effectively by Europeans on the spot—the whole system of managing agents and its methods—is sufficient to mark off economically, the Indian Ocean from the rest of the world. On the physical side, the basis of unity is, and always has been, the sea, and this remains true in spite of the modern development of railways." Such is the area to which the book is devoted and the author has presented to us a study—Economic as a whole—which is at once suggestive and informative. It is, at the same time, something very different from what we usually get in official publications, which is more descriptive than elucidative, more laden with dry figures than by an interpretation of them. Mr. Anstey's chapters on the "Trade of India and Ceylon" and on the "Organization of Trade" deserve special mention. His criticism of the managing agency system as it obtains in India cannot be said to be a biassed one. It is up-to-date and critical and lays bare its advantages and

disadvantages fairly. The three Appendices, dealing with the trade of Portuguese and French Possessions and the Indian Iron and Steel industry and over-production, and as many as eleven statistical tables add to the utility of the book. A book worth study by every intelligent business man in India.

Making of Modern India.

By Nicol Macnicol, M.A., D.LITT. Published by the *Oxford University Press. Price 7s. 6d.*

Though this is made up of a number of papers and articles contributed at different intervals of time to various foreign journals of an international character, there is running through one single purpose that of befriending India and describing it in a sympathetic spirit. Dr. Macnicol is one of those cultured missionaries whom India is proud to own as a true interpreter of her many aims and aspirations. Whether in the political or in the social and religious sphere, his view-point is not one to be discarded. He is one that attracts attention and invites investigation. Even where you don't agree with him, there is still something to be said in his favour. He writes of the people and the country with personal knowledge and that in a fraternal spirit. His study of the great personalities of India deserves praise. Whatever the future of India may be—and it is one that men like the author of this book are closely interested in—there can be no doubt that the spirit of fellowship that pervades the true Christian Missionary will not be missed. The "Political" missionary may not be a person much to be desired, but the missionary who stands for humanity cannot be unwanted even in a country where religions and philosophical ideas have also reigned supreme in the realms of thought and action.

Lambs among Wolves.

By Sister Nivedita, Udbodhan Office, Baghbazar, Calcutta. Price As. 6.

It is almost a commonplace to state that the Christian Missionary is viewed with suspicion by the average Indian. This is generally engendered by their want of social contact with the very people whom they would like to see Christians. Added to this such a procedure was not scarce at least until recently—missionaries desirous of raising Christianity high in the estimation of would-be converts try to lower other religions by methods not above criticism. Also in these days of aggressive nationalism, the religion of our masters leaves little impression on people who are themselves born in a religion with lofty ideals. The late Sister Nivedita (Margaret Noble), the most ardent of Vivekananda's western disciples, indicts unsparingly the doings of Christian Missions in India in this booklet. Though written years ago, the re-publication of this pamphlet is not to be overlooked, the *more so as it has not outgrown its time.* It is even to-day readable with plenty of meaning.

Life and Times of C. R. Das.

By Prithwis Chandra Ray, Oxford University Press, Bombay. Price Rs. 6. pp. 313. 1928.

The jacket of this book tells us that this is a personal memoir of the late Deshabandhu Chitta Ranjan Das and a complete outline of the history of Bengal for the first quarter of the twentieth century. The personality and intellect of C. R. Das was inextricably intermingled with the times in which he lived and played a gigantic part. A biography of Mr. Das would be incomplete without a side to side narration of the history of the period in which he served India with a fiery devotion. Mr. Ray has thoughtfully registered in this book the *Life and Times of C. R. Das* with a diction that is very nearly classical in its tenor and with an intimacy of detail that is perhaps unrivalled. The author presents us with pen pictures of Mr. Das as a legal luminary, as a Bengali poet, as an astute originator of the Swarajya party and last of all as a blue-blooded patriot. Though the author is a politician of liberal persuasions, we must in fairness admit that he has dealt with a Swarajist of the stamp of Mr. Das without bias and a sense of judgment *that betokens the seriousness of the task he had* set down to himself. We recommend this to all lovers of India who desire to acquaint themselves with a closely intimate biography of the great Indian. The book is well printed on good paper and is comprehensively illustrated.

Economic Organization of Indian Villages.

VOL. II. By N. G. Ranga, B.Litt. (Oxon.). Taraporevala Sons & Co., Bombay. Price Rs. 2. pp. 207. 1929.

Readers of this journal know Prof. Ranga as an indefatigable worker in the field of rural and industrial economics. This volume, the second of its kind by the author, lays particular stress on internal immigration with special reference to British Indian emigrants in the Nizam's Dominions. His original and applied studies of Nellipaka, Uppalepad, Kakumannu, etc., are fairly typical of the economic conditions of Indian villages. The data furnished in this study are very informative, searching and valuable. It furnishes much food for thought. Any scheme of rural reconstruction would be futile and speculative if due regard is not paid to the findings of workers like Prof. Ranga. We would draw the attention of Governments, co-operators, rural and agricultural reformers and the like to this suggestive book.

Hand-Spinning and Hand-Weaving.

By S. V. Puntambekar and N. S. Varadachari. The All-India Spinners' Association, Ahmedabad. Re. 1.

The authors of this essay between themselves won the Jagjivan Mehta prize of Rs. 1,000 for the best essay on hand-spinning. Their joint efforts have resulted in building up a strong plea for the cult of the Charka. At the outset the breakdown and ruin of hand-spinning and weaving that was once the pride of India is attributed to the systematic and ruthless exploitation by the East India Company. It is also adduced that in reviving this national industry of old, the authors claim that in spite of the competition of the mill, Khaddar can come to stay and hold its own. In support of this suggestion they propound the theory that hand-spinning need not necessarily compete with mill production. That is in revivifying spinning the dormant manufacturing power of the nation mostly in rural areas is utilized with profit during seasonal intervals and normal daily leisure hours that are now almost wasted. To stimulate a wider appreciation of hand-spinning the authors propose concentration in areas where the industry is already in a decentralized condition combined with a policy of systematic boycott of foreign clothes. This essay, viewed as a scientific exposition and representation of the case for Khadi, is worth reading by those who are opposed to fostering a hand-loom industry. The production of Khadi is gradually receiving the attention of Government now. It is now slowly brought home that Khadi does not stand as an instrument for political brandishment but for the economic uplift of the rural areas where people can at leisure time

take to hand-spinning for self-production and self consumption without costly middle-men. This essay, while it points out the reasons why this industry had decayed in India, also draws our attention to sturdy ways and means for an effective regeneration of the production of an article in India that stands foremost in our imports at present.

Empire Government.

By M. Nathan, K.C., LL.D., of the Middle, Bar-at-Law. Published by Messrs. George Allen & Unwin Ltd., Museum Street, London. Price 10*sh*.

This is a timely publication by one who can write with knowledge and precision on the subject of the system of Government as it obtains in the British Commonwealth of Nations. Dr. Nathan deserves to be congratulated on the production of a work of great interest and importance to all interested in the Government of the various component parts of the Empire. How comprehensive the work is may be gathered from the fact that it deals in succession with (1) the Nature of the British Empire; (2) The States of the Self-Governing Dominions; (3) India; (4) The Crown Colonies; (5) The Protectorates, and (6) The Mandated Territories. These topics form Part I of the work. In Part II, the division and exercise of governmental powers is considered. Under this head, the topics dealt with are: (1) The Crown, (2) Parliament, (3) Executive Government, (4) The Judiciary, and (5) The Subject. We know of no single book, within a moderate compass, dealing with Empire Government in the manner in which Dr. Nathan has managed to do in the work under review. He has aimed at accuracy, brevity and succinctness. After a careful perusal of his work, we have no hesitation in saying he has succeeded in his attempt at providing an eminently comprehensive and reliable outline of the system of Government prevailing in the British Commonwealth of Nations. The great merit of the work is its lucidity. In view of discussions that are to-day taking place in India in regard to "Independence" and "Dominion Status", we might add Dr. Nathan's chapter on the "Status of Self-Governing Dominions" ought to prove interesting and helpful to serious students. The *first part of this* chapter deals with the growth of "Dominion Status" and the second with the "Report on Inter-Imperial Relations, 1926" which has a brief commentary attached to it. We would commend the work to publicists generally in this country. Considering the nature of the subject dealt with in it, it should be described as a *multum in parvo* and as such ought to be welcome to all interested in constitutional theory and practice as it obtains in the British Empire.

International Conciliation.

Carnegie Endowment for International Peace, 401, West 117th Street, New York City, U. S. A.

A part of this munificent endowment intended to promote peace by pacific means is devoted to the publication, month by month, of a pamphlet entitled *International Conciliation* which exclusively, through the medium of learned writers, presents, in a very scholarly fashion, the main currents of world progress. The laudable service of this agency is to educate people with the various forms of Governments in the world and to the promotion of a world-wide realization of the blessings of International peace. Here are some of the titles of the pamphlets so far issued that speak for themselves:—(1) *The United States and the Treaties for the Avoidance of War.* (2) *The Anglo-French Project for Limitation of Armament.* (3) *The New Germany.* (4) *The Slavery Convention of Geneva*, 1926. (5) *Australian Immigration Policy.* (6) *The Permanent Court of International Justice.* (7) *Recognition of the Soviet Government and U. S. A.'s Policy towards it.* (8) *The League of Nations.* (9) *The British Commonwealth of Nations.* (10) *The Locarno and the Balkans.* The booklets deserve wider publicity than they are apparently receiving.

The Co-operative Movement in Soviet Russia.

International Labour Office, Geneva. 6*sh.* or $1.50.

A comprehensive study of the co-operative movement as it obtains under Soviet dispensation is made available in this volume through the good offices of the International Labour Office. The most marked matter that stands out prominently in going through these pages is the administrative and economic structure of the movement under communist influence in contrast with *capitalistic co-operation*. In a nutshell this volume enlightens us of how the communists view *co-operation with Karl Marx on the background*. Hitherto the co-operative movement served only the members who had voluntarily joined it. But after the revolution the Soviet resolved that it must serve all the workers, and the membership of the movement was rendered obligatory instead of being voluntary, as one of the many social obligations. In Soviet Russia it is interesting to observe that the co-operative movement no longer needs private capital (which by the way ceases to exist in a socialist society). It is no longer dependent on the members' contributions but is maintained like a department of the Soviet Government.

The volume is split into four convenient parts. The first gives an account of the co-operative movement during the period of communism. The second takes us through a period of transition of the new economic policy. The third part presents us with interesting details of the consumers' co-operation under the new economic policy. The last one is a synopsis of recent developments in the consumers' co-operative movement. This volume which covers about 362 pages is replete with information on Soviet *co-operation that would draw the attention of inquiring* co-operators who desire to see how co-operation functions in Socialist garb.

History of India.

Part I. The Pre-Musulman Period by K. V. Rangaswami Aiyangar, M.A.

Part II. The Muhammadan Period by H. L. O. Garrett, M.A., I.E.S., and Sita Ram Kohte, M.A.

Part III. The British Period by L. F. Rushbrook Williams, C.B.E., M.A.

Messrs. Longmans Green & Co., London and Madras. Price Rs. 1-12; Rs. 3; and Rs. 3.

This is a well-conceived history of India, based on the latest authorities available, and written in a manner hardly susceptible of improvement. In the First Part, Mr. Rangaswami Aiyangar has successfully endeavoured to outline the history of Hindu-India. A notable feature of it is that it treats as much of the people as of their kings. Social and economic conditions receive attention as much as religious and political. In the Second Part Messrs. Garrett and Sita Ram Kohte deal with the history of the Muhammadan Period. They have done their work with great skill and care. This is, we think, the first school book in which we discern an attempt to present this period of Indian history with sympathetic insight. To illustrate our point, we would instance the manner in which they treat of Sivaji's life and the Afzal Khan

incident in particular. This is in striking contrast to the writings of Sir Vincent Smith in the *Oxford History of India* which is, we regret, rather marred by unhistorical and indelicate writing. Very similar is the care displayed by Mr. Rushbrook Williams in Part III treating of the British Period of Indian History. His unbiassed account of Lord Curzon's viceroyalty ought to serve as an example of his method. We think that this well-planned and well-executed *History of India* will receive the attention of the Boards of Studies in the several Indian Universities. As for lay readers, we cannot recommend a better written series than the one under review. The many maps and illustrations add to its utility and make it altogether a valuable publication both for the class room and for the general reader.

Women in Buddhist Literature.

By Bimala Churn Law, PH.D., M.A., B.L. Published by *Messrs. W. E. Bastian & Co., Colombo, Ceylon.*

Dr. Bimala Churn Law, earnest scholar that he is of Buddhism, has written this little book—for it is just 128 pages in length—in a manner that is likely to enhance his reputation. It is learned, readable and entertaining to a degree. We confess we have read it at a stretch so pleasing is it throughout. Dr. Law has provided a book which will perhaps provide an antidote to mischievous publications of the type Miss Mayo has produced. Nobody denies the *existence of evil customs but to unduly exaggerate* them and put them out of perspective is to perpetrate a crime. True art consists in presenting the truth without twisting it or turning it to suit one's own whims. Dr. Law has set down in this book a study of supreme interest of women as we see them depicted in Buddhist literature. As human beings, they had, as they yet have, their faults and their virtues and we see both described in this book as the true artist would. That is as it should be done; anything would *mean doing violence to Truth.* What did the Buddha think of the women of his day—of their weakness and of their greatness? What did his contemporaries and those who came after him for a thousand year think of them? These are the questions answered in simple, guileless, but scholarly fashion by Dr. Law. The truth is not hid from the reader but is laid bare—it is told in the manner it should be. That is the merit of this book. Quite a good book that should be widely read in this country and what is more circulated in Great Britain and America. Dr. Law could, if he turned his attention to inscriptions, find equally good material at hand to write another excellent volume on the women mentioned in them through the ages, from the 3rd century B.C. to the 17th century A.D.

The book is well printed on good paper and has a useful Index. To scholars, it ought to prove a welcome addition to their reference shelves.

The main headings under which Dr. Law treats the subject may be noted:—Marriage, Slave Girls, Dancing Girls and Courtesans, Female Character, Female Education, Women and Buddhism, Bhikkuni Sangha and Prominent Buddhist Women. This numeration ought to suffice to indicate the comprehensive character of the book. In view of its importance as a reference work, we could suggest the correction of the following printers' errors we have noticed:—P. 27, line 5, "dislified" should be "*disliked*"; p. 32, line 24, "my" should be "his"; p. 97, line 9, "beatiful" should be "beautiful"; and p. 118, line 7, "pevish" should be "peevish". We have set down these only to improve the book in a possible next edition. We commend it to the attention of the large public interested in the subject of women in India and how to improve their position in almost every direction of national life. That they are capable of a high corporate life for the benefit of the country is placed beyond all possible doubt by the position they occupied in Buddhist history as portrayed in this work. Herein lies, perhaps, its greatest worth as a contribution to the study of woman's life and work generally in this land in the past.

Scientific Reports of the Agricultural Research Institute, Pusa, 1927—28.

Central Publication Branch of Government of India, Calcutta. *Price Rs. 2-6 or 4s. 3d.*

These Reports have a recognized value to-day and as such they deserve in our opinion more than a passing reference. They are models of what such Reports ought to be. The following interesting notes on agricultural research can be gleaned from them:—Sugarcanes manured with potash and superphosphates yielded juices of the highest quality, though the yield was markedly low. From the point of view of yield, the best combination was superphosphate and sulphate of ammonia. The acetic ether test for the detection of adulterants in butter fat was found effective for all cow butters and for buffalo butter made from the milk of animals not fed on cotton seed. Butters from buffaloes fed on cotton seed are rejected by this test and in these it was found necessary to apply Halphen's test. Experiments to test the efficacy of different methods of curing tobacco, their effects on the composition of the leaf and the changes which occur during the process of curing were continued. *During the year under review interesting* experiments on the storage of raw and half ripe and ripe mangoes were conducted with a view to find out how far the ripening enzyme is affected by a low temperature.

The People: Lajpat Rai Number.

We warmly congratulate the editor of *The People* for bringing out a memorial number that is a fitting tribute to the illustrious departed patriot Lala Lajpat Rai. *It contains not only cullings out of the published* and unpublished works of Lala Lajpat but also includes tributes, estimates and eulogies of the late leader's personality and work both abroad and at home by eminent people—both foreign and Indian—who were fortunate in knowing Lala Lajpat Rai. It is illustrated to profusion by pictures and portraits of Lajpat Rai taken at different periods in India and foreign countries. The special issue is priced only 8 As. per copy. We urge every reader to own a copy as a memento.

Acknowledgments.

1. Bulletin of the Imperial Institute. April 1929. Price *sh.* 3-6.
2. Preliminary Report of the Survey of Cottage Industries in the Guntur District. Government Press, Madras. Price As. 6.
3. Report of the Forest Department, Madras, 1928. Vol. II. Price Rs. 2-4-0.
4. Preliminary Report of the Survey of Cottage Industries in Salem District. Price As. 6.

Articles in the Journals.

1. *New Materials for the Manufacture of Artificial Silk.*—Bulletin of the Imperial Institute, April 1929.
2. *Stray Impressions of Co-operation in Mysore and Madras.* By V. L. Mehta. The Bombay Co-operative Quarterly, March 1929.

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Indian Caste System: A Study—I.

By the Editor.

The subject of Indian Caste is a highly interesting one but it bristles with difficulties. But its very complexities should, I think, induce economists and sociologists to study it with care and attention. In this paper, I propose only to lead the way towards a better elucidation of the subject. An attempt—and no more than an attempt is possible—will be made in it to probe some of the problems connected with it. *The relationship of caste to* race: the theories as to its origin, the original Indian theories and the recent European theories; and some of the effects of the caste as a socio-religious system will be among the points that will be touched upon it. No *finality is claimed for any of the views* propounded or conclusions arrived at in it. Whatever is stated is only put forward in the form of a tentative hypothesis and if the facts adduced do not support any of the views advanced, they may be discarded. One thing, however, I would suggest in this connection. It is this: A historical study of caste is still a desideratum. A study of the materials available in the Vedas, the Buddhist Texts, the later Sanskrit literature is, of course, necessary. Weber, Oldenberg, Rhys Davids have contributed much towards this study. But for the development of caste during post-Buddhistic age down to the eighteenth century, we have still an amount of matter locked up in the rich vernacular literatures of India that deserves to be carefully sifted. There is here a fertile field of work for research students in our country. Until this work is undertaken, I do not think *anything final can be said on* this much debated subject of caste. The field is vast and the workers are few. Hence my appeal for more work in this department of research.

The relation of caste to race has been much discussed but this is hardly the occasion to go in any detail into the many conflicting theories which have been propounded in regard to it. At one extreme is the theory of Nesfield who assumes the essential unity of the Indian race, denies in general any difference of blood between Aryan and Aboriginal and holds that caste is merely a question of occupation. According to him, by the time the caste system and its restriction on marriage had been evolved, the Aryan blood had already been absorbed beyond recovery into the indigenous, so that no caste, not even the Brahman, could claim to have sprung from Aryan ancestors. The *existing differences in social rank are due* solely to the character of the occupation: the scavenger castes are at the bottom of the social scale, then those engaged in hunting and fishing, and so on, through a regular gradation, to the landowners and warriors and at the top of all the priests. The antithesis of this theory is Sir Herbert Risley's view that the primary distinction was one of race, engendered by the contact of *the conquering fair-skinned Aryans* and the conquered black aborigines. The former despise the latter, but at first, having too few women of their own they were often obliged to take aboriginal girls as their wives. Later on, when this scarcity no longer existed, they closed their ranks to any further intermixture; and when they did this, each group became a caste like those of the present day. There was a regular gradation of social rank, the communities of pure Aryan and aboriginal *stock being respectively at the top and bottom,* and those with varying degrees of racial mixture in the middle. Once started the principle of endogamy was strengthened and extended to groups formed otherwise than on a racial basis

until the modern multiplicity of caste was evolved. But even now caste largely corresponds to race; and the social status of the caste is indicated by its physical type, those of the top having an Aryan and those at the bottom an aboriginal physiognomy. Taking the nose as the most characteristic feature, Sir Herbert propounded that castes vary in social rank according to the average nasal index of their members. It did not, of course, mean each individual caste had its distinctive physical type but that each social stratum comprising a number of castes of similar standing can be distinguished in this way from those above and below it. It seems necessary to add, as Sir Edward Gait well points out that Risley used the expression 'Aryan' to designate the people calling themselves *Arya or Nobh* who entered India from beyond the North West Frontier and brought with them the Sanskritic languages and the religious ideas to which expression is given in the Vedas and Upanishads, and whose physical type is represented by that of the Jats and Rajputs, *viz.*, a long head, a straight finely cut nose, a long, symmetrically narrow face, a well-developed forehead, regular features and high facial angle. He refused to enter on the controversy between those who, like Posche and Penka, regard the tall, blonde, dolichocephalic and leptorrhine Scandinavian as representing the primitive Aryan type and those like Isaac Taylor, have held that it is to be identified with the short-headed leptorrhine neolithic race who built the dwellings of South Germany, Switzerland and Northern Italy. Risley's conclusions have, however, not gained general acceptance. Based on the measurements made by him in Bengal, they have been called in question by Crooke in the United Provinces; Enthoven in Bombay, and Thurston in Madras, while O'Donnell has argued that even the Bengal measurements are often at variance with it. On the other hand Nesfield's theory of racial unity is conclusively disproved by the measurements which show considerable diversity, not only in different areas but also amongst different groups of castes in the same area. It is not proposed to go into this large question here except to point out that Sir Herbert Risley has, according to competent critics, exaggerated the isolation of the present grouping of the people and that caste, in its modern rigid form, is of comparatively recent origin. The older custom, for instance, recognizes the possibility of a Kshatriya becoming a Brahman or *vice versa* and although a man is supposed to take his first wife from his own class, there was no binding rule to this effect, while in any case he was free to take a second wife from a lower class. As Mr. Crooke points out similar laxities of practice prevail at the present time among certain communities in the Himalayan Districts of the Punjab. Caste, again, has been habitually modified by the action of Rajahs who have not infrequently claimed the right of promoting and degrading members of the various castes. The process of amalgamation of castes and tribal groups is specially observable in the case of forest tribes when they come in contact with Hinduism. Each of them shows, as Mr. Crooke puts it, a ragged fringe in which the more primitive tribe is found intermingled with the more civilized race.

Writing of the extreme mutability of caste, Sir Edward Gait says :- "Those which I have described as discontinuous whereby a whole community raises its social rank, though disturbing the correlation between caste and status which Risley alleged to exist, have in themselves no effect on the racial composition of the community unless in time the upstarts succeed in intermarrying with some other social group. But the changes arising from the transfer of individuals or groups from one caste to another would clearly disturb the homogeneity of the castes receiving them. This would be the case, for instance, where the men are in the habit of taking wives from other castes of lower status. Still more would it be the case amongst the functional castes. If it be conceded that such castes have received successive accretions of groups from outside, it follows that the main caste is seldom a homogenous body and that measurements taken, as they have almost invariably been, without regard to the sub-caste, cannot be expected to give uniform results. The individual sub-castes are more likely to consist of persons having a common origin but this is also by no means an invariable rule. The processes of fission have no doubt been in operation from the earliest times; and the sub-castes of to-day, though more uniform in type than the castes of which they form part, were probably in their turn formed out of different groups, which in course of time have become so closely intermingled that all traces of the original distinctions have disappeared."

If many of the existing castes have a functional origin can there be any possible correspondence between caste and race? "The answer is," says Sir Edward Gait, "that the conquerors would have reserved for themselves the higher occupations, leaving the more primitive warriors and traders: on the other hunters, fishermen, basket-makers, scavengers

and agrestic serfs. Handicrafts and other intermediate occupations would be followed by the half-breeds who were in closer contact with the conquerors than the pure aborigines. Again, not only would persons of higher status monopolize the occupations regarded by them as superior, but the occupations themselves would be graded in public estimation according to the status of the person practising them. This, of course, is merely an indication of the general tendency. As is known, there can be no doubt that aboriginal priests have often obtained recognition as Brahmans and aboriginal chieftains as Kshatriyas, just as some outcastes from the conquering race no doubt found an asylum amongst the aborigines. When members of one caste take to the occupation of another, it would ordinarily be the case that both communities occupy more or less the same social position. It would be much easier for an artisan to take a handicraft other than his own than for a scavenger or boatman to adopt it as his means of livelihood. Such accretions, therefore, would not necessarily affect materially the racial composition of the caste receiving them."

In writing as above Sir Edward Gait takes care to explain that his remarks "apply primarily to Northern India". "In the South," he adds, "the infusion of Aryan and other foreign bloods is much weaker and there is far greater racial uniformity." While this statement is not borne out by the figures furnished by Mr. Thurston, there is no doubt that caste has been more rigid in Southern India. The peculiar physical division of the country may have helped much in the maintenance of caste. During pre-British days it is possible that Hindu kings and chiefs exercised considerable power in connection with the regulation of caste rules and rights. Whether they included the power of promotion from a lower to a higher caste, as Hindu Chief in Northern India, especially in the Punjab, still do, is a matter for further investigation. If the powers now wielded by the Hindu rulers in the West Coast is any guide in the matter, it may be inferred that such promotion and degradation was common in Southern India, in olden days as it was, and is to some extent, in Northern India. It is on some such basis as this that Mr. Thurston's figures are capable of a rational explanation. They plainly indicate wide-spread miscegenation through a wide extent of a country during a prolonged period. This view is supported to some extent by the *dictum* of the Hindu Law-givers from the earliest times. Thus Bandhayana in his *Dharma-sutras* (I. 1. 32-33) includes the inhabitants of Dhakshinapada (the south) among those of "mixed origin". Hemadri, who wrote in the 13th century A.D., in his *Sraddhakalpa*, quotes the following text from the *Saura Purana* :—"The Brahmans of Anga, Vanga, Kalinga, Saurashtra, Gurjara, Abhira, Konkani, Dravida, Dakshinapatha, Avanti and Magadha should be avoided." Can the pre-platyrrhine nose of the several of the Brahman sects be traced to their mixed origin ?

Danthonia : A Splendid Grass.

Mr. B. Harrison of Cudgera Park, Burringbar P. O., New South Wales, Australia. writes :—"This variety does not yet appear to be known in your country, and judging by the favourable reports here of its great success in many places, it is worthy of some attention. For some years past it has been grown in the Southern portion of our State and New Zealand. It is considered a valuable pasture grass, and is credited with carrying two sheep to the acre, and is very palatable and fattening. It is a perennial, fine-leaved, tussocky grass, growing from one to two feet high, and provides feed for the greater part of the year. It is said to be good winter grass, will stand a great amount of grazing, and its palatability both for cattle and sheep is well known. Even when other grasses are completely dried up it will provide a fair amount of greenness in the bottom growth and it is due to this that the Riverina country in our State can carry excellent sheep during a dry spring and summer. In New Zealand it is recommended for both very dry and very wet soils, and it will give a good return even in very poor ground. It is said that it will grow equally well in the coastal districts and in the interior, and is especially adapted to poorer soils, unsuitable for other grasses, and will live where cocksfoot and rye grasses succumb or fail for want of humidity or nourishment. It is very nutritious, fattening, and greatly relished by all kinds of stock. It grows all the year round and withstands drought as the roots penetrate the soil deeply, and thus enables the plant to withstand long spells of dry weather. It will thrive luxuriantly in all situations, and once established it spreads rapidly and should prove useful to many stock-owners, to whom I will be only too pleased to give any further information."

New Air Romances.

By Harry Harper,

Author of "Twenty-Five Years of Flying".

Some really striking instances are now forthcoming of the value of the aeroplane as a transport vehicle in remote, undeveloped territories where any form of earth travel is still tedious and slow. In New Guinea, recently, the exploitation was begun of gold mines lying inland behind a range of mountains. It was found, however, to be a long and laborious business, by means of native trails and roughly made roads, to carry loads between the mines and the coast. This transport problem became, in fact, so acute, that the engineers decided to investigate the possibilities of using aeroplanes. Through their representatives in London they got into touch with the experts of Imperial Airways, our national aeroplane-operating company. The latter made a careful investigation of all the local circumstances, geographical and climatic, and the result has been that the mining interests have just purchased a powerful 8-ton transport type flying machine. This craft is now on its way to New Guinea where, piloted by a British airman, it will make regular flights to and fro between the gold-mines and the coast. The machine is of the Handley Page type, driven by three Bristol motors developing a total of 1,500 h. p. It will not only be able to fly to and fro above the mountains, carrying members of the mining staff and loads of precious metal, but it will also be possible to employ the machine for the aerial transport, in sections of pieces of mining machinery and other plant. And the supreme value of the aeroplane, in this particular instance, lies in the fact that in about 40 minutes, by air, it will be possible to accomplish a journey which, by laborious earth transport, occupies nearly 3 weeks.

Salving the Sick.

It is yet another romance of the air, this use of the flying machine to solve transport problems in remote and inaccessible localities. In Peru, for example, there are mountain-mines which it is now proposed to operate entirely by means of weight-carrying aircraft, while in British Guiana seaplanes are proving most sucsessful in effecting regular flights between Georgetown, on the coast, and scattered settlements lying inland up the Essequibo river. The existence of a number of rapids renders travel by this river a particularly troublesome business. The flying machine makes nothing of such obstructions, pursuing its swift, undeviating course high above all the barriers that Nature can impose. And it is not only from a business point of view that the aeroplane can render such striking service in these far-off lands. In cases of sudden illness its aid may prove invaluable. Not long ago, in connection with the British Guiana air service I have just mentioned, news reached Georgetown that at a lonely settlement a considerable distance inland a wireless operator lay critically ill. To get him to hospital in Georgetown would, by river transport, have necessitated a journey lasting a couple of weeks, and one so exhausting that it might quite likely have had serious, and perhaps fatal, results. But the problem was solved promptly by transforming one of the seaplanes into an ambulance. Thus equipped, the machine flew in about an hour from the sea-coast to the isolated settlement. Here the patient was taken aboard and carried swiftly and smoothly to hospital at Georgetown. Such an instance is merely one among many. All over the globe, in localities where transport problems are still acute, aeroplanes are proving of inestimable value from a medical point of view.

Even in Europe, with its well-developed travel system, the 100 miles-an-hour of the modern aircraft makes a frequent appeal to the doctor and the surgeon in critical cases where even a few hours may be all-important. One of Italy's most famous surgeons, Professor Raffaele Bastianelli, now pilots a fast aeroplane of his own, flying all over Italy to perform urgent operations. Professor Bastianelli declares that the speed of the flying machine, bearing him to remote destinations in not more than a few hours, has more than once, owing to the quickness with which he has been able to perform an important operation, been the means of saving human life.

Police Planes.

We hear so much of the death-dealing powers of the aeroplane, from a warlike point of view, that we are apt to forget the every-day services which it is able to render to modern civilization. A powerful instrument it is beginning to prove, for example, to those entrusted with the maintenance of law and order. Only the other day,

at a gathering of legal experts in New York, striking data was afforded of the part that "police planes" are already beginning to play throughout the United States.

Naturally, so far as Britain is concerned, we have not the vast distances which make America an ideal territory for the employment of flying machines, but at the same time we may take it for granted that Scotland Yard will not hesitate, given suitable opportunities, to invoke the assistance of the aeroplane in the detection of crime, where it is thought that a fast aircraft may find its scope, even in our comparatively small country, is in regard to some mysterious crime taking place in a lonely rural spot, difficult to get at quickly either by train or car. Clues are hottest when they are followed up promptly. Therefore we may expect, in due course, to hear that one or other of the big men at our head uarters of crime detection has been sent rushing through the sky, at twice the speed of the fastest train, to unravel, while the clues that may assist him are still fresh, some mystery hundreds of miles from London. There is another direction, also, in which the aeroplane may help to defeat law-breakers, even within confines as narrow as ours. This is when a murderer, or other criminal, manages to escape on to a lonely moor, or similarly desolate tract of land. In such a contingency detectives, going up in aeroplanes, will be able to survey in a short space of time an extraordinarily wide area, and possibly detect—from their bird's eye point of view—some sign of the criminal's lurking-place.

Exploring by Plane.

Another vast peace-time field for the flying machine lies in air survey. One of the objects of wealthy organizations which have been established recently in New York is to explore aerially, with amphibious flying machines, an enormous untapped region lying between Alaska and the North Pole. It is truly a new continent this—thousands of miles of it—which lies awaiting the service of man, if only he has to wit to exploit it; and now that the big, reliable, metal-built transport aeroplane, using motors which burn crude-oil at only at a few pence a gallon, looms upon our horizon, the plan begins to shape itself whereby industry may penetrate into tremendous areas, actually within the Arctic circle, where, as explorers remind us, it is far from a region of eternal ice.

A change in all conceptions of the Arctic zone should be one of the first-fruits of our developing "air age". There are mighty "lowlands," north it is true of the Arctic circle, yet where in summer snow vanishes, plants appear, and herds of reindeer roam. The problem is transport. Great areas of Arctic seas are, of course, unnavigable. Northern land transport has its ceaseless problems. But overhead there is the free, unfettered highway of the air. Can it be utilized habitually and with reasonable safety? Can Arctic aerial transport be made, as to working costs a business proposition? These are the questions, upon them, it is hoped, an early light will be thrown. Already we have expert opinion inclining to the view that the great "prairies" of the Arctic should be flown over with ease. And to be borne in mind, also, is the production, now imminent, of really large steel-built cargo-planes in which the power plant will be so arranged as to eliminate, for all practical purposes, any risk of forced-landings. Given such purely transport craft, their staunch-built engines using all cheap crude-oil fuel, and we may not only have Arctic airways connecting England, say, with Japan, but fleets of big flying "lorries" may bear us regular trade from Northern solitudes which, up till now, have yielded only tales of hardship and peril.

President Hoover's inaugural address bristled with epigrammatic statements. Here are some of them:—

"We are steadily building a new race—a new civilization great in its own attainments."

"Rigid and expeditious justice is the first safeguard of freedom, the basis of all ordered liberty, the vital force of progress."

"There would be little traffic in illegal liquor if only criminals patronized it."

"The duty of citizens to support the laws is co-equal with the duty of their government to enforce the laws which exist."

"Our whole system of self-government will crumble either if officials elect what laws they will enforce or citizens elect what laws they will support."

"Those who have a true understanding of America know that we have no desire for territorial expansion for economic or other domination of other peoples."

"We not only desire peace with the world, but to see peace maintained throughout the world."

"Peace can be contributed to by respect for our ability in defence."

"The animosities of elections should have no place in our government, for government must concern itself alone with the common weal."

Co-operation and Economic Uplift.

By Sir P. C. Ray.*

My association with the co-operative movement, however unobstrusive and casual it might be, has convinced me that in our present peculiar circumstances, co-operative societies furnish one of the most effective means for the improvement of the economic condition of the vast masses of Indian people. Although scientific study and research have so far claimed my foremost care, I have not been wholly unconcerned with the problem of economic uplift of the Indian people.

It is often said with reference to the co-operative movement in this country that it has not so far been able to imbue members of co-operative societies and others associated with these bodies with the spirit underlying it. That there is considerable force in the charge so frequently brought forward against the movement in India by critics that it is chiefly considered as an agency for the supply of facilities for credit and looked upon by many principally from the point of view of material gain, nobody acquainted with its working will deny.

But this is a complaint which is not peculiar to India alone. A similar complaint is also made by the writer in respect of members and workers connected with the movement in advanced Western countries. And the writer of the article is no less a person than an ex-president of the Alliance.

A Neglected Ideal.

If after working co-operative societies for over three-quarters of a century promoters of the movement in educationally advanced and economically progressive countries in Europe and elsewhere find the higher aspects of the co-operative movement lacking in it, it is no wonder that in India where education is diffused among so small a percentage of her population and the movement has a life and history of not more than twenty-five years behind it the conditions should be such as unfortunately they are.

It is much to be deplored that the members of co-operative societies and promoters of the movement are not actuated, to the extent that they should be, by the high and noble ideals that inspired its originators. What, however, is demanded is not a justification of the situation because the conditions, in other advanced countries, are also similar, but an earnest and organized endeavour to improve the conditions.

The Task before us.

As you are all aware the initial stages of the co-operative movement in India were devoted to the development of only its credit side. Although experiments in other directions have subsequently been attempted and efforts are being made for developing other types of co-operative societies the progress achieved in the directions has, it must be admitted, been so far most inadequate.

Even in the sphere of credit, considering the vast extent of this country, and the almost abysmal poverty of the general body of our people, it cannot be said that the movement has been able to touch more than merely the outer fringe of the area to be tackled. This shows that much, very much still remains to be done even for the development of the credit side of the co-operative movement.

Whatever might be the imperfections of the co-operative movement as it has been shaped and organized by its promoters in India, it is undeniable that it has rendered signal service to a considerable section of the poorest people of this country by reducing the rates of interest and making credits available to them. But this does not go far enough so long as the people availing themselves of financial accommodation from co-operative societies are not able to acquire habits of thrift and to diminish their indebtedness by adding to their resources by productive means.

Rural Indebtedness.

The indebtedness of the Indian peasantry has been variously estimated. According to the estimates made by Sir Hubert Calvert and Sir Pursottamdas Thakurdas the amount reaches such a high figure as 600 crores. It will not take you long to calculate roughly the figure that represents the heavy sum that has to be paid as interest on this huge amount and the effect that this exercises on the future prosperity of the cultivator.

It can well be imagined how this reduces the Indian cultivator to the position of one who is no better than a serf. The ryot is thus in blank despair. He knows however hard he may toil the fruits of his labour will be snatched

*Part of an Address delivered at the Bombay Provincial Co-operative Conference.

away first by the exacting revenue officer and then by the mahajan and the ubiquitous middleman. To him is presented the picture of Dante's Inferno, on the gates of which are written in bold letters, "All ye who enter here abandon hope".

The Solution.

There is no single solution to this deplorable condition. To me it appears that the promoters of the co-operative movement in this country should now devote their attention to a proper development of co-operative activities in directions other than the provision of credit which has so far, practically speaking, monopolized their attention. Methods should now be devised which would enable the people to add to their resources by creating new wealth as also to retain substantial portion of the profits, now appropriated by the interminable series of middlemen who are to be found in every important or unimportant trade or industry.

American Example.

Co-operative marketing has achieved impressive and striking results in American and European countries. In India we are just on the threshold of this movement. The situation here, therefore, demands more enthusiasm, more vigorous work and better organization.

There should, I think, be organized effort not only for the development of sale and supply societies of the type mentioned by me for the marketing of our principal crops but when adequate experience has been gained in their working and these have become pretty widespread, attention should be directed to bring within the co-operative net, the numerous lesser crops.

The Industrial Aspect.

There is another important sphere where our progress has been most inadequate, I mean industrial co-operation. In their report the Indian Industrial Commission, 1916–18, strongly emphasized the intimate connection between co-operation and the improvement of agriculture and cottage industries. The Royal Commission on Agriculture do not, however, seem to be optimistic in the matter. They think that, to put it briefly, the possibilities of improving the condition of the rural population by the establishment of rural industries are extremely limited. With such a restricted outlook the recommendations of the Commission in the matter cannot be expected to be of much practical help or use.

Although the introduction of machine industry in Western countries has had the effect of practically destroying our cottage industries, my enquiries lead me to believe that with adoption of vigorous measures it is still possible to resuscitate some of these industries and introduce new ones, if co-operative methods are adopted. Without some such method I do not know how relief is to be afforded to the vast mass of our rural population, who are obliged to remain idle for 6 to 9 months in the year and need spare-time occupation.

Industrial Corporation by which I mean such cottage industries as have already been developed for the manufacture of cotton, silk, woollen and jute goods; co-operative organization of village artisans who formerly played a very important role in rural economy, but whose industries have been submerged under the tide of organized capitalistic exploitation and such other productive rural industries, too numerous to mention: these, if developed, will help the production of new wealth. In this connection mention may be made of co-operative irrigation societies which, in the words of the Royal Commission on Indian Agriculture, are reported to have changed the whole outlook of the people and to have strengthened their economic position.

Public Health societies like our anti-malarial societies would, by rousing the sanitary conscience of the people, by inculcating the principle of self-help and by improving the health of the people and the sanitary conditions of villages, check the enormous economic wastage due to disease that is taking place at the present moment, and thus indirectly help the production of wealth.

Agency Required.

It will not be difficult for you to realize that if the economic condition of the vast mass of our rural population is to be improved by co-operative methods and effective and energetic measures are to be taken for such improvement, the agency required for this onerous work is not available. The staff that the Provincial Co-operative Departments have at their disposal is generally meant for credit work. For experiment in new non-credit directions competent men with special qualification and an adequate number of such men are required.

For the promotion of irrigation societies you require engineers, for milk societies you need properly trained experts conversant with the various scientific processes required for the treatment of milk; for health societies you require trained sanitarians; for sale and supply societies you require trained men with business aptitude, and for all these you need honest men,

having love for their work, conversant with the principles of co-operation and devoted to the co operative movement. The question now is, where and how are we to get such men? This brings me to the question of education and co-operative training.

EDUCATIONAL ASPECTS.

The striking progress of the co-operative movement noticed in Western countries is due principally to the great emphasis that its promoters place upon its educational aspects. As you must all be aware, the Rochdale Pioneers resolved that apart from the modest subscriptions of their members the entire surplus of their mutual trade should not be distributed to the members but should be kept partly as a reserve and devoted to the extent of 2½ per cent for the promotion of education. "The education that they had in view was that of instructing the community in the advantages and *benefits of co-operation, that* is to say, in genuine propaganda for the ideal, and afterwards when the recruits had *become established members of their society,* in training them to become real co-operators."

SCHEME OF ADULT EDUCATION.

While dealing with the problem of education and co-operative training, we must bear in mind the *fact* that if co-operative societies are to devote their attention only to the solution of the problem of primary education, as some co-operative societies appear to be so minded, the benefit accruing to the community therefrom would be realized, not presently but perhaps partially, at a distance of twenty or twenty five years hence.

What, therefore, is needed, is that a well-considered scheme of adult education should be devised and efforts should be made to bring it into effect at once and that steps be taken to introduce such education all over the country on an extensive scale. As the Report on the Royal Commission on Indian Agriculture states, *such a development would antedate by* at least a generation that great advance in literacy which in our view is essential to progress *in all directions.*

Report on the Bardoli Enquiry.

By "Scrutator".

By a Bombay Government Resolution, dated the 18th of October 1928, Mr. R. S. Broomfield, I.C.S., Judicial Commissioner in *the States of Western India and* Mr. R. M. Maxwell, C.I.E., I.C.S., were appointed to enquire into and report upon the complaint of the people of the Bardoli and Chorasi talukas (*a*) that the enhancement of revenue recently made is not warranted in terms of the Land Revenue Code, (*b*) that the reports accessible to the public do not contain sufficient data warranting the enhancement and that some of the data are wrong; and, in the event of it being held that the people's complaint was justified, what enhancement or reduction, if any, there should be upon the old assessment. The Report of the Special Enquiry Officers has now been published. A long and comprehensive document, with many pages of appendices, it examines in detail the Settlement reports of the two talukas and sets out fully the facts and figures upon which the new proposals *of the Special Enquiry Officers* are based.

The first part *of the report deals* with *the question whether the enhancement in revenue* recently made was warranted in terms of the Land Revenue Code. Section 107 of the Code lays down that "*in revising assessments of land* revenue regard shall be had to the value of land and, in the case of land used for the purpose *of agriculture, to the profits of agriculture*". The Special Officers find that there is no legal hindrance in the section to the basing of the assessment on rental value or what the Indian Taxation Enquiry Committee have described as "annual value". Provided that the rental value has been properly ascertained there is nothing inconsistent with the very wide and general language of Section 107. "This proviso," says the report, "is of vital importance. When all is said and done, the settlement of these talukas has been based upon an estimate of what the profits of agriculture are likely to be during the period provided for. That estimate may be wrong. As we shall show, we consider that it is unduly high. But to misread the evidence, or to be misled by faulty evidence, is a very different thing from acting contrary to the law. If the legal point had been put in this way, that the rental statistics of these talukas, owing to their defective or abnormal character, do not afford a *reliable criterion of the profits of agriculture,* and that in relying on them the authorities have therefore offended against the *spirit* of

Section 107, there would, we think, have been considerable force in the argument." The Special Officers point out that that aspect of the case is really covered under the second head of the terms of reference and is dealt with in the report under that head.

The Special Officers then proceed to examine the complaint that the reports accessible to the public do not contain sufficient data warranting the enhancement and that some of the data given are wrong. They discuss in detail the data relied upon by the Settlement Officer, especially as regards railways and roads, marketing facilities, the crops grown in the talukas and the extent to which such crops are exported, population, new houses, agricultural stock, the cotton boom, prices, increase in share rents, etc., and come to the general conclusion that the Settlement Officer was optimistic in the conclusions which he had drawn as to the effect of these considerations on his proposals. The rental statistics relied upon by the Settlement Commissioner are examined and the Special Officers emphasize the point that close scrutiny of the kind required can only be properly carried out in the villages in the presence of the parties or of people acquainted with the facts. The Tenancy Register is probably the least reliable of the village records, and in the course of their enquiries they discovered a large number of errors. Moreover, the Registers do not contain all the material facts. The Special Officers state that the statistics in the Settlement Report which purport to give verified statistics of leases in practically every village in Bardoli and Chorasi for a period of no less than 24 years, cannot possibly have been verified in any real sense by the Settlement Officer himself. It is clear too that the Settlement Commissioner's proposals were founded almost entirely on the assumption that *the rental statistics, as appearing in the various* appendices, contain all that is necessary to establish rental values in these two talukas, and that the rental values so ascertained can be adequately expressed by means of indices. After examining these statistics in detail the report says (speaking of the Bardoli Taluka) "leaving out of account the great diminution of material which results from proper sifting, we have found comparatively few villages in which leasing for cash rents is really common, while in many others it is so rare that no conclusion as to the state of agriculture in general can fairly be based on rental figures." The data require much more detailed study than is possible on the information supplied in the appendices and in whatever manner the results of an individual village may be summed up for the purpose of exhibition in a statistical form, only very general inferences can be drawn from them regarding the relation of "rental value" to the present maximum rate. A very wide margin indeed must always be allowed for the eccentricities of the raw material, and any attempt to use the figures as though they were capable of yielding a direct calculation of the "full standard assessment" should be regarded as wholly untrustworthy.

The report then examines the grouping proposals and says: "Whatever may have been the principles applied to the revision settlements of these two talukas, they have certainly not resulted in schemes of grouping which are consistently intelligible or in accordance with the facts as we find them. Some of the worse anomalies were corrected by the subsequent orders of Government in the case of the Bardoli taluka, but in many other cases the grouping is demonstrably wrong. We have found so little to help us in the sanctioned revised grouping of these talukas, that in framing our own proposals we have found it better to ignore the new and to start afresh from the old grouping."

In their discussion of sale statistics the Special Officers refer to one circumstance of special importance in these talukas, namely, the great demand for land on the part of people who have made money in South Africa or in other places abroad and their obvious willingness to pay fancy prices for it. It is perfectly clear that these people are inclined to be liberal, not to say reckless, in the disposal of their money, and the only inference to be drawn from the fact is that people who pay such astonishingly high prices for land as these South Africans do cannot make any exact calculation of expected profit or interest on capital.

Summing up their conclusions on this part of the report the Special Officers say :—

"We are bound to hold that the complaint referred to in point (*b*) of the terms of reference is substantially justified. The data in the reports, apart from rental and sale statistics, are obviously not sufficient to warrant either the general increases sanctioned in the maximum rates or the much higher increases in the case of particular villages. The rental and sale statistics have been carelessly compiled, are demonstrably incorrect in a large number of cases, and in general must be regarded as completely unreliable. Further, the established method of using the statistics is, in our opinion, unsound in theory and, however it may work in practice in other districts, is not capable of giving satisfactory results in this part of Gujerat where leases and sale transactions are affected by such a variety of disturbing factors. In view of this conclusion we submit that the present settlement cannot be

allowed to stand in either of the two talukas, and we therefore proceed to formulate fresh proposals of our own as directed in the last part of paragraph 2 of the *Government Resolution* by which we were appointed."

The Special Officers then discuss their proposals for a re-settlement. They say that in the course of their field work they made public inspection of 49 villages in the Bardoli taluka and 21 villages in the Chorasi taluka, and general enquiries were made at each village covering practically the whole of the revenue agricultural and economic facts, so far as relevant for settlement purposes. The greater part of the time, however, was usually devoted to the examination of sale and more particularly leases, where such material was available. At all their inspections the case for the agriculturists was also watched by representatives specially delegated for the purpose, and the report acknowledges the conscientious and impartial manner in which this assistance was given and its real value to the Special Officers for the purpose of this enquiry. The Report points out that there can be no doubt that rental data, if collected with proper care, tabulated in a manner which brings out their real significance and used with due reference to *the meanings of the underlying transactions*, do afford almost the only positive evidence accessible to the Settlement Officer in revising the assessment. "We ourselves," says the Report "have found that the great amount of time and labour involved in the collection and compilation of these statistics has yielded valuable results, and while we have used our own judgment entirely in the interpretation of the figures we have based our settlement proposals more largely on these data than on any other class of material."

At the preliminary conference with the representatives of the people, which was the starting point of the enquiry, it was impressed upon the Special Officers that the best method of determining the profits of agriculture is by ascertaining the yield, multiplying it by the price, and deducting the expenses of cultivation (the main items in which, it was explained, are labour, including the estimated wages of working owners and their families, seed, live-stock and dead stock and manure). The Report points out that the method is not a new one, and no one acquainted with its history could feel very sanguine about the results to be expected from it. The Indian Taxation Enquiry Committee were *unanimous in their* opinion that any comparison of the assessment with net produce is in practice impossible "since the expenses of cultivation are not known with sufficient accuracy, and it would take years to ascertain them." The Special Officers state that they have carefully considered the elaborate data submitted to them and the statements which were prepared with the greatest care and industry. The salient point about these statements is that, invariably in Bardoli, and almost invariably in Chorasi, the balance was on the wrong side. The Report says:—

"At the outset, therefore, this method of calculation brings us to a paradox, if not an absurdity. The pursuit of agriculture is not a lucrative one in most *parts of the world*. It is not the means by which fortunes are made. Where conditions are favourable, however, it may be expected to provide at least a competence and it can hardly be denied that in these two talukas the conditions are on the whole favourable. They are not free from the danger of sudden calamities such as the frost which in this very year largely destroyed what would otherwise have been a bumper cotton crop. But the people in the village where we happened to be camped at the time, told us they could hardly remember a similar catastrophe, and it can safely be said that this part of Gujerat is less subject to the vagaries of climate than most parts either of Gujerat or of the Deccan. The rainfall is, generally speaking, assured and sufficient in quantity. The soil over the greater part of both talukas is obviously extremely fertile. Only a rich *and generous soil could stand the strain of growing* cotton for years successively, with very occasional rotation of other crops; or could furnish such evidence of fertility as, for instance, the great Bardoli rice plain as we saw it from Pardi Kaded half way through January. The solid expanse of wal, castor and hemp stretching almost to the horizon, might not, as far as these second crops are concerned, represent any vast amount of money, but afforded a very good criterion of what the main rice crop must have been. With such a vista before one's eyes, it was difficult indeed to believe that the cultivation of the economic unit of land, that is of average land in an average year (for those were the *conditions postulated*), must *necessarily* result in a loss of Rs. 200 a year. (The figure given for Pardi Kaded was Rs. 201.) If that were the loss per unit of 15 acres the loss on the whole village must be in the neighbourhood of Rs. 8,000. In Valod, *where* the same unit was taken and the same figure of loss shown, we calculated that the loss for the village on that basis must amount to Rs. 45,600 a year. How is it possible that agriculture could be carried on at all under such conditions; and how is one to explain, in that case, the statistics of rents and sales? Let any reasonable reduction be made from the recorded figures of such transactions. The fact remains that very substantial sums are everywhere paid for the privilege of cultivating or owning land which, according to these figures, is not only not going to give any return whatever on the capital expended, but is, on the contrary, *merely a means of accumulating a load of debt*. There must be something wrong with the calculations somewhere.

......Naturally the first question that arises is, are the figures given reliable? Now we are quite satisfied and we are glad to testify that Messrs. Narhari Parikh and Mahadev Desai who prepared the cost of production statements for us, were sincerely desirous of assisting us to ascertain the real truth. They did

their best, we believe, to present the facts with scrupulous fairness and accuracy and they have frequently discounted claims and allegations which appeared to be exaggerated. At the same time one cannot ignore the fact that their calculations are almost entirely based on the information furnished by the cultivators themselves, that is, by the very people to whose interest it is to show that agriculture does not pay and that the assessment is too high. Even if circumstances could ever exist in which a Settlement Officer could safely base his proposals on the ryots' own estimates of *their capacity to pay, it is certain, for obvious reasons*, that the circumstances do not exist now in these particular talukas. Neither the estimates of yield per acre, which in many cases, especially in Bardoli, appeared to be unduly low, nor the details of alleged expenditure were capable of any convincing test. So far as we are aware the only instances in which the profit and loss statement for the unit is based, even partially, on any regularly kept accounts occurred in Sarbhon (where the Co-operative Credit Society maintains an account of the sale of cotton) and in Kosad (where accounts of the chillies supplied and the prices paid for them, are kept in books furnished to their clients by the Surat green-grocers). We have to regard these statements, *therefore, as rather in the nature of a plaint or state*ment of claim than as evidence in the strict sense of the word: and we consider that they derive most of their value from the conscientious way in which they were compiled and edited by our friends from the Ashram."

"Even taking the figures at their face value, however, it became evident at a very early stage in the proceedings that they do not really mean what they *purport to mean. Let us go back to our particular* instance, Mota. The Tenancy Register of that village showed that in 1927-28 there were 344 acres leased for cash rents and the people admitted that leasing of jirait land was quite common at a rent of Rs. 7 or so per bigha. The question was put to them therefore, why should a man pay Rs. 175 (rent of the typical unit of 25 bighas) in order to incur a loss of Rs. 126 (As a matter of fact the loss ought to be much more than that since there is no item of rent in the calculation as it stands.) A khatedar of the village, who cultivates 100 acres, said in reply to this that he himself does not spend anything for manure as he gets enough from his own cattle. He also mentioned that *the members of his family, who do much of the work*, do not actually get any wages. Another landowner, with a rather smaller holding answered in the same way, but stated that the average man has to spend about Rs. 50 for manure in addition to what he gets from his own animals. In reply to a similar question in Varad the Patel said (1) that wages are not paid to members of the family, (2) that out of the item of Rs. 174 for manure considerably more than half comes from the cultivator's own animals, (3) that many people keep buffaloes and they and their family are maintained out of the price of the ghee. Replies to the same effect were given in Timberva, Palsod and elsewhere. It was quite obvious that, whatever the *position might seem to be on paper, the people here did* not allege that they were unable to make both ends meet."

The Report examines a number of accounts *in detail and points out that in practice it is* either impossible, or at least extremely difficult, to express the two sides of the account in equivalent terms: and the Special Officers "cannot feel satisfied that the ingenious attempt which has been made to solve the *problem has been* at all successful."

The Report then discusses the indebtedness of the people and says that "even if it were possible *to eliminate all irrelevant factors* and to ascertain the volume of debt which is due to *bona-fide* agricultural losses, we should not prove that agriculture cannot be carried on at a profit, but actually the contrary......... Although it has frequently been asserted that the land revenue is the cause of the ryot's indebtedness, we have found little or nothing to support such a theory in the course of our enquiry."

The remainder of the Report is devoted to the proposed re-settlement of the two talukas and the facts and figures upon which the proposals are based are discussed in detail. The main basis for the Special Officers' recommendations *is the evidence of the value of land.* These statistics cover far less than the whole of either taluka, but the local knowledge gained in the course of many inspections makes it possible to recognize homogeneous tracts and to apply the data of one village to another with very fair confidence. Indeed, almost every local circumstance, geographical, physical, agricultural or economic, is relevant to the interpretation of these statistics, and it is only by a study of all the facts on the spot that any officer is qualified to apply them.

As regards Bardoli Taluka the result of the Special Officers' proposals is a net total increase of Rs. 30,806 or 6 per cent over the old assess*ment of the taluka. The resulting* total assessment will thus be about Rs. 5,41,271. Compared with the Second Revision Settlement as sanctioned, there will be a decrease of about Rs. 89,379. Apart from three villages in which the net increase is 25.37 per cent the highest net increase in any batch of villages is 12.63 per cent and the largest decrease is 10.12 per cent.

In Chorasi Taluka the Special Officers' proposals will result in a net total increase of Rs. 17,842 or 5.24 per cent over the old assessment. The total assessment of the taluka will thus be raised to about Rs. 3,58,000 giving a decrease of about Rs. 49,465 compared with the Second Revision Settlement. The greatest increase in any batch of villages is 14.82 per cent (three villages only) and the increase in the villages forming the proposed Group I stands next at 12.45 per cent. *The remaining* villages of the old Group I have a net decrease of 3.77 per cent.

In the two talukas taken together the

Second Revision Settlement already sanctioned imposed an increase of Rs. 1,87,492 or 22 per cent. The proposals of the Special Officers, on the other hand, result in a total increase of Rs. 48,648 or 5.7 per cent which will bring the aggregate land revenue demand to a figure closely approaching 9 lakhs. "Our experience of these talukas does not suggest," says the Report, "that they will be under-assessed at this figure, nor does the evidence which we have collected appear to justify a larger increase at the present time."

A New Line for Co-operation in India—II.

By Miss G. Ponnaiya, M.A.

Having thus noticed the destructive elements of our economic life, we now turn to see the main causes that attack efficiency of labour. The efficiency of each labouring unit is the stored-up wealth that a country could boast of. Efficiency depends on contentment. Contentment is only realized when the physical and mental needs of human beings are satisfied. In India both physical and mental efficiency was maintained in pre-British days by the regulation of the caste system where birth marked off the career of each individual. With the advent of the British and the introduction of railways and other means of communication as well as the industrial principles of large scale production, etc., the system has become a cumbersome relic of the past which hinders economic progress owing to its having failed to adjust itself to the changing needs of the country. The principles of cleanliness and sanitation have been misunderstood and misapplied. We have been found adhering to the shadow rather than to the substance. While keeping our houses clean, we make of the roads in front our rubbish heaps. We thus blind our sense to our common civic duties and care not whether the roads breed flies and other epidemic bacteria. It is lucky that our country is so near the tropics, as otherwise, the consequences of the insanitary condition around our dwelling places would be far more disastrous than at present when epidemic diseases take their turns all round the year as a matter of course. The sanitary and medical authorities point out that a great part of the infecting bacteria are destroyed by the rays of the sun. The above is true of both urban and rural areas, and urban citizen who would try to teach sanitation to the rural brother will do well to see how far better off he is in this respect commanding, as he does, good drainage, clean water supply, and sanitary system of scavenging.

Then there is the problem of the housing of the poor labouring units. Most of them are living in insanitary and dark hovels. Steps ought to be taken to see that dwelling houses are made more airy and open to sunlight. Insanitary life in insanitary surroundings is thus one of the worst enemies of the labouring units in India, which impairs their physical efficiency.

Moreover, the lack of healthy exercise in childhood and youth has led to the deterioration of the manhood of the land. Consequently, the efficiency of labouring units has been seriously affected. The reason for one thing is, that they are too ignorant of the value of exercise; nextly, they can ill-afford to allow children the time and facility for such recreations owing to their poverty. To the same reason may be assigned the self-denials which are more or less forced upon our labouring units and to which they are not a little accustomed. They would forego food and clothing merely for the lack of money or convenience. This results again in the deterioration of their physique. They cannot earn more wages, because it is more or less fixed in respect of each area and kind of work. It is estimated that the average earning power per head per day in India is about one anna and eight pies. In industrially advanced countries, *e.g.*, the U. S. A. and England, it is rupees three and two and a half respectively. In normally healthy times, the Indian unit can scarcely afford nutritious food. It is also estimated that for healthy growth to normal height and weight, the labourer requires about 23 ozs. of food per day, of which about half must contain carbo-hydrates and about a sixth proteids. The expenditure of wages has also been calculated and fully half or nearly 60 per cent ought to go towards food and 10 per cent for clothes. It is easy to see that this proportion cannot be maintained when wages are very low.

In the Report of the Indian Taxation Committee, which was recently issued, is a very interesting statement which is reproduced below :—

Burden of Taxation on Labouring Units.

No.	Urban Labourer	1911–1914	1922–1925
		Rs. A. P.	Rs. A. P.
1	Salt	0 2 4	0 3 5
2	Excise duty on Cotton and Kerosene Oil ..	0 0 4	0 1 8
3	*Custom duty on raw materials and manufactured goods* ..	0 0 5	0 2 9
4	Custom duty on Cotton, Kerosine, Matches and Sugar ..	0 1 9	0 7 6
5	Excise duty on intoxicants except foreign liquor	1 4 10	1 14 0
6	Municipal Tax ..	1 9 3	2 8 3
7	Others	1 7 1	3 2 1
	TOTAL ..	4 10 0	8 7 7
	Index ..		513

No.	Rural Labourer	1911–1914	1922–1925
		Rs. A. P.	Rs. A. P.
1	Salt	0 2 4	0 3 5
2	Excise duty on Cotton and Kerosene Oil .	0 0 4	0 1 8
3	Custom duty on raw materials and manufactured goods ..	0 0 5	0 2 9
4	*Custom duty* on Cotton, Kerosene, Matches and Sugar ..	0 1 9	0 7 6
5	Excise duty on intoxicants except foreign liquor	0 6 10	0 9 9
6	Municipal Tax ..	*0 0 8	0 0 9
7	Others	†0 1 1	0 1 1
	TOTAL ..	0 13 5	1 10 11
	Index ..	136	226

There are some pernicious customs amongst us which further contribute to the degeneration of physique. Child marriage has enervated and degenerated the labouring classes and the nation as a whole. Several have become physically unfit as a result, and this fact explains the average age of an Indian being as low as 36 years. Combined with this pernicious custom, a Hindu, even the poorest, has to incur heavy expenses for social and religious observances. This calls for self-denial on the part of the labouring units. The dowry system and the marriage and the funeral ceremony attack the very vitals of the energy of the labouring unit. That is why Professor Marshall says: "In India we find people who do indeed abstain from immediate enjoyment and save up considerable sum with great self-sacrifice, but spend all their savings in lavish festivities, at funerals and marriages. They make intermittent provision for the near future and scarcely any permanent provision for the distant future : the great engineering works by which their productive resources have been so much increased, have been made chiefly with the capital of the much less self-denying race of Englishmen." This gives us an insight into the labouring conditions of England indirectly which implies that the self-sacrifice of the Indian labourer is an obligation which must be undergone so as to conform to the rules and regulations of society and of religion. Clearly, our socio-economic structure is hopelessly lacking in the capacity to adapt itself to changing economic conditions.

Still more, physical deterioration is accelerated by the uncertainty of employment. The uncertainty of getting good steady work, the short notices served on labouring units by their employers, the very low wages that they have to accept during trade depressions and sudden dismissals make the labouring units have a gloomy outlook on the future. This uncertainty suppresses all impetus and impairs their productive efficiency. Coupled with the economic injustice which they always feel, the labourers are always ready at the call of disintegrating influences such as strikes. The lack of sympathy between the capitalist and the labourers widens the gulf instead of bridging it. That is why labouring units look upon a capitalist as "That white-faced monster with the bloody lips that has sucked the life blood out of our selves, our wife and children since the world began." In addition to this antagonist attitude of labour towards moneyed capital, the ignorance of the labouring units to understand the trade conditions and trade cycles, the reluctance of the capitalist to enlighten them on the real situation, and the large dividend in the time of boom, give ample cause for labouring units to think and feel that they are cheated of their just reward. Prudence requires that the capitalists should enlist the sympathy of the labouring force to their side by their own sincere efforts to alleviate the conditions of the labouring units. An elucidation of the real situation of industry even when the labouring units are suspicious about the home truths that may be placed before them, would avert many a strike and

* Capitation tax in rural areas.
† Chowkidar.

the evil at least mitigated. Thus mutual sympathy would promote concord among the agents of production and secure reliability and efficiency for both the employers and the employed.*

The highest form of organized labour is found in factories and mines in India. The employers who have generally realized the situation of labour look to the welfare of the labouring units and try to mitigate their hardships. The *Factory and Mines Acts*, the Trade Unions Act, the Workmen's Compensation Act and other measures have been passed by the Government. Special Boards have been created with Magistrates as Chairmen to investigate accidents should any serious ones occur. The regulation of working time, the housing problem, fixing up of wages, insurance against sickness, etc., have received some attention at the hands of the Central Government. But these measures are not sufficient for the half-starved, badly-housed and ill-provided labourers who do not hesitate to join hands with any party which promises a better future for them. In order to check the abuse of power in factories, the Government have appointed only 46 inspectors for the 7,515 factories in British India. The three Labour Bureaus in India, namely, the ones in Madras, Bombay and *Bengal, are helplessly inadequate to cope with* the situation in the whole of India.

In mines, proper precautions have been taken in the interest of the welfare of the labouring population. Hospitals are being maintained in mining areas by the mine owners so as to care for the sick and the injured. It has been made compulsory for at least 1 in every 100 labourers to hold a First Aid Certificate so that they may be handy when accidents occur. There are regulated hours of work with a day off in the week. The number of hours per week is fixed at a maximum of 54 hours for underground labour and 60 on the surface. Many mines work for less hours per week. Care is taken to exclude children under 12 from mining work. In the interests of labour, the Government is also trying to eliminate women labour from mines. A proposal *taking effect from April 1929* aims at the reduction of women labour in mines at the rate of 10 per cent per annum, so that by the end of April 1939, there will be no women employed underground. Similarly, women labourers will be *gradually reduced* in surface working mines. *A Board of Health* has been created to improve the condition of sanitation in mining areas, and is maintained by the levy of a tax on coal at Rs. 1-4 per 100 tons despatched. Elected representatives of mine owners and workmen sit on this Board. Wages too are higher in mining labour—about 13 annas per man per day and 7 annas per woman per day. Legislation has also enforced compensation being made to miners who have sustained grievous hurt, resulting in fracture of limb, loss of eye, or hearing, or enforced absence from work for more than 20 days. But there is still more scope for improving the condition of miners. Provision should be made in the Mining Act of India enabling workmen to appoint Mining Inspectors on their own behalf. Besides, the Government Representative of Labour in the Central Government, who is now encumbered with other works also, should be divested of his other responsibilities so that he may devote his attention solely to the interests of the miners. On the whole, organized labour, as it is in India now, has yet to see many reforms before it can be considered to be satisfactory.

The low wages and consequent poverty of the labouring units also impairs their efficiency. Wages are too low in India. The evils of Indus*trial Revolution of the West* have raised price levels and lowered wages. The inordinate number of dependants that each labourer generally has, also contributes to inefficiency. The modern economist who has the country's interest at heart, says boldly, 'fix a minimum wage and be done with the question of settling disputes'. A minimum wage ought to cover not only the bare subsistence of the labourer and his dependants but also must enable him to keep the wolf from the door in seasons of adversity. Some fix Rs. 20 per month as a minimum for India. But the continental character of our land precludes us from laying down such a hard and fast rule. The customs, habits, the standard of living and the standard of comfort vary from place to place according to climate, environment, etc. That is why a Madras labourer requires very little in the way of clothing, the Bangalore labourer a little more than the Madrasee, and the labourer in Ootacamund or in other colder regions requires most of all. Again, the expenses for food, lighting and fuel as well as social and religious observances vary from place to place. Consequently, the standard of comfort and the standard of living must vary, and there is no meaning in fixing a minimum wage for India or even for South India. Again, since the number

* In Industrial wars known as strikes and lock-outs, the labourers cannot and will not see beyond their nose, and the employers, on the other hand, are just as stubborn. In their fight, they altogether lose sight of the hardships and losses sustained by the public.

of dependants varies from one labourer to another, fixing a minimum for anything in our economic society is an impossibility. If the minimum wage is fixed, all labourers would find themselves on a uniform footing together, and economic justice would still be unsatisfied. The different kinds of labour, too, ought then to cease to earn different wages. Hence, a uniform wage system which may sound well as a principle, is not feasible in existing conditions. The demand for and supply of goods is an uncertain factor and is always fluctuating. This must tend to disturb the level of wages. This will upset the level of prices, and the vicious circle will be completed when this again impairs efficiency of labour.

The little attention that has been bestowed upon properly organizing labouring units has made them inefficient and unreliable. To fashion labour to the required shape, both general and technical education must be given to each individual. Indian labourers may be illiterate, but they are by no means unintelligent. They may be slow to understand things, but they are by no means incapable of adjusting themselves to suit the growing needs of production. The aim in proposing to impart education at least to the majority of labourers, must be to enable them to use their acquired knowledge for practical ends. It is only the leisured, well-to-do class of people, who can afford to seek knowledge for its own sake. But the majority of people in India including those who are addicted to mental or manual labour look to education as a means to satisfy their wants. Theory and practice ought to go hand in hand: but the so-called educated classes are too theoretical, and prone to philosophise with empty stomachs and religiously believe that "the better the starvation, the nearer the salvation". No labouring unit in the whole world excepting perhaps slave-labour is so very self-sacrificing of its energy on the altar of duty as the Indian. And none in the world could be so easily satisfied as he, for, he has got the fatalistic idea ingrained in him. He believes that Providence has allotted him only what he is able to get in this world, including his social and religious encumbrances. To these he must be true, and with a full realization of his responsibilities, he tries faithfully to discharge his duties. He thinks that work is life's tonic and that "Life is a commodity that is actually sold for duties, pleasures and excitement. Some get a high rate for it, some sell it for next to nothing, some hoard it too long, and some sell out too soon, at any price the life market brings."

SOME REMEDIES.

The cost of education is very low in India, which compares very unfavourably with other countries.* Compulsory primary education must be resorted to in order to dispel illiteracy. Technical education must follow the knowledge of the three R's, as otherwise individuality is likely to be cramped and suppressed. Chiefly, attention is to be bestowed in order to help self-expression. Specially trained and gifted teachers should be employed for teaching the very young children,† to use their powers of observation and reasoning to the fullest possible extent. The teaching of Kindergarten in primary classes must aim at practical knowledge of every-day life on a small scale. The sense of citizenship and civic responsibilities should be cultivated with the help of a graduated course in Civics.

In addition to the literary education, healthy physical exercises and games should be introduced, with the obvious aim of building up the body, and with the higher and more definite aim of evoking team spirit and developing sportsmanlike character. The lack of a spirit of co-operation is very conspicuous in India to-day in every walk of life. If the team spirit becomes instilled, the destructive non-co-operating spirit which is the bane of India, will disappear altogether.

The Indian labourer has to adapt himself to the changing needs of production. The lack of facilities and opportunities to develop technical skill must therefore be remedied immediately. Though illiterate, the Indian labourer possesses the necessary adaptability for the change. This is a legacy which the impact of different civilizations in the past has given him. In his own sphere of work, he stood unchallenged by the then civilized countries of the world, until the dawn of the Industrial Revolution of the West.‡ The want of technical education has hindered his progress. About his capacity to

* The cost of education per head in England is £2-[illegible], in Scotland £2-8-0, and in India £0-1-6.

† The present system of leaving the education of the very young to ill educated undeveloped minds in the half-starved bodies of poorly paid creatures requires a thorough reversal. The most intelligent and highly trained teachers should be detailed to develop children on approved psychological principles, and give them very high ideals of citizenship.

‡ Egypt, so far back as 2,8 0 B.C. as revealed to us now by the excavations at Ur, consumed the production of Dacca muslins. We now deplore the loss of the art of manufacture of this fine textile fabric. Inability to hold its own against competing machine-made goods and the extinction of the special varieties of cotton-bearing trees referred to by Megasthenes in his *Indica*, and recently substantiated by the records

work, the testimonial which was given by Mr. R. G. Jones of Bombay speaks eloquently. "Some of the men who have never had an opportunity to learn our kind of work naturally pick it up very slowly, but their average ability and intelligence is as good as of those of any other country. We have had no difficulty in getting men able to handle our important positions. We have sufficient number of men who are exceptionally good."

When Indian labour could so justify itself, it has the right to be treated from the humanistic standpoint. The labourers are but men, as subject to feelings, emotions and will like ourselves, and do not deserve to be treated as the *cog in the economic wheel, to be put on or discarded* at our will and pleasure. The fashioning of labour to be more like machines or mechanical parts has resulted in the inhumane attitude assumed by the employers. That this attitude is displayed even in the Government service by superior officers towards their underlings is *very much to be deplored. It is* only by giving labourers a share of the responsibility in production, by making them feel that they are partisans in serving the needs of humanity, by pointing out the power that they *have in production to make or mar the economic* progress of our country, and by instilling in their minds that production is not an end by itself but is a means to an end, which is the securing of the greatest happiness to the greatest number, so that the required reliability of labour and impetus might be obtained. The *aim of production should be to serve human* needs and not to dominate over human beings; it should be made "to beautify human life and not to degrade it; to set life free and not to enslave it." Such treatment of labour would *help to develop individuality, and give free* scope to express it in its own sphere while merging the same in the interest of the whole which is the ideal condition of production. Some of the capitalists have realized that "labour takes precedence over capital in productive enterprises. The welfare of labour, even unskilled *immigrant labour, is a more* important factor than the welfare of the capital." If one factor must be sacrificed, then it must be the latter. "By the adaptation of this principle of considering labour not as a com*modity to be brought at the lowest possible* price, but as human life with hopes and aspirations to be encouraged and brought to fruition through useful human products." (Americanization.) Especially in Western countries, such a *humanistic recognition* of labour has given rise to what are known as profit-sharing concerns and co-partnership. In the profit-sharing concerns facts and figures exposing both their weakness and their strength are made available to employees. A fair share of the net profits is given, graded according to wages, thus securing *the required harmony in production. In* co-partnership, the labourer and the capitalist are identical for the purpose of the net bargains. These are rational methods of treatment of labour which bridge the gulf between the *capitalists and labourers. This form of co*-operation is the kernel and life of the progressive, productive, economic welfare of the country. This nucleus to have power to withstand all onslaught of foreign elements trying to master us. The treatment of labour on a humanistic standpoint will tend to sharpen the senses of individual responsibility and give a stimulus for the individual to rise to the occasion. Naturally, this necessitates the looking after the comforts of the labouring units and keeping up and promoting the efficiency of *labour.*

The efficiency of labour is encouraged by pursuing a policy of having high wages with one of low costs. The idea is to put down a price level enabling the labourers to lead a life of *comfort and of ease.* High wages combined with high price levels will not indicate a country's prosperity, because the purchasing power is raised according to the scarcity of the available commodity. The idea here is that the purchasing power that wages command should remain constant in spite of the vicissitudes of *the price level.* Such an ideal wage keeps the efficiency of the labouring units intact. This is only possible when perfect harmony reigns among the agents of production. Other countries have tried to give tolerable help to their labouring units. *Germany, for instance,* which boasts of "the triumph of art over nature", has looked to the welfare of the labouring units. That is the reason that a German labourer in Mr. Ogg's words "is trained to be good mechanic, he is insured against accident and sickness and is watched over in a variety of ways; when he is thrown out of employment, he is provided for, when sick he is tended." Germany knowing that 'Satan finds work for idle hands to do' has made it obligatory for her boys to be educated at the expense of the State

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which have come to the light through the excavations of Harappa and Mohenjadaro are considered to be the reasons for the loss of this long-standing, world-famous industry, which survived up to a century ago. To have successfully maintained such unchallenged superiority for thousands of years speaks well about the Indian industry of the past.

and provides them with work on the completion of technical education. When thrown out of work, Municipalities accommodate the unemployed and gives them food These live in home-lodging houses while they are in search of work. In return for slight work, such as chopping of wood, drawing of water or cleaning of furniture, they are offered free accommodation and shelter. In India, the lack of adequate measures for protecting the labourers against accident, sickness and old age has been live conspicuous. No doubt recent legislation has remedied this defect to some extent, but it has still to be given full effect. There is incentive for people to take to industrial pursuits in great industrial centres. In the absence of the caste system, in the sense of distribution of work according to birth, many fell back on the land for finding work owing to the advent of the industrial revolution. A tendency has also developed in labouring units to lead an unsettled life. It is only the joint family system which still attracts the labourer to his home. Even the factory labourer thus goes back to his native environment and takes to agriculture. This adjustment is seen in the migration of rural folk to towns and their return in specific seasons. This leads us to enquire into the question of the mobility of labour in India.

In order to conform to the ideal of production, labour in India ought to move from occupation to occupation and from place to place. Adam Smith truly says: "Man of all sorts of luggage is the most difficult to be transported." India finds difficulty in this matter, but Indian labour has become very mobile. Witness the enormous number of coolies employed in the tea, coffee and rubber estates not only in India itself but also in Ceylon, Burma and the Malay States. Hence, efficiency in production is not really impaired for want of free movement of labour. But, their attraction of pay outside their native environment is becoming less glamorous. Indian labour is regarded as cheap and consequently, Indian wages are very low. A porter in Switzerland is very much better off financially than many highly qualified Indian clerks who find it difficult to make both ends meet. What then are the ways and means of fashioning organized reliable labour?

The Economic Aspects of the St Lawrence Waterway Plan.

By Kathleen E. Best,

McMaster University.

[With a view to encouraging the systematic study of the economic problems confronting the country, the Royal Bank of Canada offered a $1,000 Graduate Fellowship to the student in attendance at any Canadian University who should submit the best paper on one of a number of specified subjects.

The competition received the wholehearted support of the Department of Economics at each Canadian University, and in 1928 there were fifty-eight students from every part of the country, who submitted essays. In 1929, there were sixty-two essays received: thirty-three from McGill University; four from Dalhousie University; four from McMaster University; three from the University of Toronto; three from the University of Saskatchewan; three from the School of Higher Commercial Studies; three from Macdonald College; two from the University of British Columbia; two from the University of Western Ontario; and one each from Acadia University, Loyola College, Bishop's College, Laval University, and Brandon College.

In 1928, the Right Honourable W. L. Mackenzie King, Dr. Oscar D. Skelton and Dr. Adam Shortt, the judges, awarded the prize to Mr. Dermot A. Davies, a student at the University of British Columbia. Mr. Davies is now attending McGill University under the benefit of this Fellowship.

The subjects of the papers in 1928-29 were as follows:—

The Economic Aspects of the St. Lawrence Waterway Plan.

The Coal Problem in Canada.

A discussion of the relationship between the St. Lawrence Valley and the coal supplies of the East and West.

Sources of Federal Revenue and their relative merits.

The study of a particular foreign trade area for the development of Canadian commerce.

Dr. Adam Shortt and Dr. Oscar D. Skelton, the judges, awarded the Fellowship to Miss Kathleen E. Best, a student at McMaster University, for her paper on "The Economic Aspects of

the St. Lawrence Waterway Plan". The paper which received second place was one written on "The Coal Problem of Canada", by Mr. S. A. Saunders, a graduate of Dalhousie University who is now studying at the University of Toronto.

We publish below Miss K. E. Best's paper in the hope that it will lead students of Economics in India to take up systematic study of the kind displayed by her. For instance, we should be glad to see our students studying the economic aspects of the Krishnarajasagara or the Mettur Project.—ED., *M. E. J.*]

The St. Lawrence Waterway Plan is now accepted as economically desirable, scientifically feasible and politically expedient. It is no longer a problem of possibility, but of adjustment.

THE PROJECT.

There are five obstacles in the way of an open waterway from Fort William to the sea:

1. The falls at Sault St. Marie.
2. The flats in the St. Clair and Detroit Rivers.
3. The Niagara Falls.
4. The group of rapids in the St. Lawrence, which are currently referred to as—

(*a*) the International Section, from Prescott to Cornwall, containing the Galop Rapids, Rapide Plat and Long Sault;

(*b*) the National Section, containing the Soulanges group of Rapids and the Lachine Rapids above Montreal.

5. The lower St. Lawrence between Montreal and Quebec.

The present St. Lawrence Waterway Plan *aims to complete a twenty-seven foot navigation* channel to overcome these five obstacles in the river system. Because this river forms an international boundary in the greater part of its course, the channel is to be a joint undertaking. The National Advisory Board of Canada, after investigating the report of the International Joint Commission, has recommended the following distribution of responsibility:—

That Canada should provide for the works wholly Canadian, such as the Welland Ship Canal, and the area of the St. Lawrence below the international boundary, and that the United States should undertake the completion of a twenty-seven foot channel to the head of the lakes in addition to meeting the entire cost of the International Section (4*a*).* Canada has already spent $115,600,000 on the Welland Canal. The lower St. Lawrence presents no serious difficulty. The urgent problem is now the development of the national section of the upper St. Lawrence. The cost for this section only is estimated at $87,000,000 for navigation and $296,000,000 for power if completely utilized, or a total of $383,000,000.

*Letter from Hon. Vincent Massey to Hon. F. B. Kellogg, Government Correspondence, January 1928.

FINANCE.

While the advantages of the new ship canal to Canadian trade have been demonstrated in various reports and the value of the potential water-power is appreciated, it is significant to note the statement of the National Advisory Committee "that if it were seriously suggested that Canada should undertake to finance as a public undertaking the immense outlay.... we would unhesitatingly recommend that no action be taken......".* The Dominion Government cannot afford to finance this work because of its present burden of war debt, its railway obligations, and the necessity of spending large sums on public works. But the Report offers an alternative. "We believe......the development of this national section would be undertaken by private agencies able and willing to finance the entire work, including the necessary canalization, in return for the right to develop the power."†

The first question that arises is, why would it not be worth while for the Canadian Government to finance the whole project itself? If there are real benefits to be obtained from development of power in the national section, it seems a short-sighted policy to hand over a power monopoly to a private company in return for navigation facilities over its own waters.

There is some truth in this argument. The whole development, it is proposed, will be financed by a private company who will then sell electric power to the people of Quebec. But the two costs, that of navigation and that of power, are essentially different. The benefit of the navigation works will accrue to millions in the west both in the United States and Canada, while only a limited area can possibly be served by the electric power. Yet, according to principles of finance, a heavy initial outlay is charged off annually out of the earnings of the company. It is anticipated that the full cost of the navigation works which the power company must provide to the Government will be borne, through high-priced electricity, by the area served with power.‡

* *Report of Canadian National Advisory Committee*, January 1928. † *Ibid.*

‡ Mr. Beaudry Leman and Mr. Adelard Turgeon, *Appendix to Report of Canadian National Advisory Committee.*

The expected industrial expansion may be choked in its infancy by high power rates. If the country as a whole will benefit by improved navigation channels, the cost of these improvements should be shared by all, and not alone, as may be reasonably feared, by the Quebec consumers of power.

Again, it is more natural to expect a private company to reimburse itself for initial expenditures by high rates, when it is recalled that such a company would have a virtual monopoly of the power supply. All the economic laws that operate under monopoly conditions may be applied to such a case. Competition, that powerful set of brakes on profit, can no longer be relied upon, for competition in the supply of electric power is not only wasteful, but also impracticable. A private company in possession of the St. Lawrence would hold a strategic position. It would be an industrial monopoly subject to the law of increasing returns, which returns would arise both from increasing efficiency of plant and constantly growing market.

The answer to these objections lies in the simple fact that the Government is not in a sufficiently strong financial position to undertake the development as a public enterprise. The "spur of profit" is needed to make it attractive as an investment for private capital and the risks of the engineering projects, the pioneer work of adjusting a great flood of electric energy to the demands of a small population, call for a specialized management that public officials are quite unable to supply. Private management is a very necessary step in the great undertaking. But the time will undoubtedly come, as it has in the case of so many railroad systems, when public management will be more economical. Speaking of water-power, Taussig says, "The Public should never give away in perpetuity the ownership of this great resource", and "It is the first and simplest canon of public policy that there should be no unlimited franchises."* A reserved privilege of purchase should be inserted in the contract, based on the cost of the plant, not, as would certainly occur if the Government later sought to purchase through the financial market, on the capitalized value of its earnings.

In the United States it has been shown that Government regulations which enforce publicity of accounts, with statements of costs and profits, have been sufficient to check extreme abuse of monopoly privileges. But when the period of public ownership is entered upon, it is impossible to predict what force will be adequate to check the political demoralization and industrial stagnation so widely prophesied. Taussig speaks in general of a more enlightened electorate and sharpened conscience as to honesty and efficiency in public administration: "It is not too much to say that the future of democracy will depend on its success in dealing with the problems of public control and regulation."†

The St. Lawrence Waterway Plan, in its financial aspect, presents to Canada a clear field for the application of those principles and practices which have been tested by other Governments in their experience with public utilities.

For the United States, the problem of finance is not one of supreme concern. It is believed that the expenses of developing the International Section will be borne by the Aluminium Company now in operation in this area, but the vital question of safeguarding national rights and the regulation of an American monopoly, are beyond the scope of this essay.

TRANSPORTATION.

The chief purpose of the St. Lawrence Waterway Plan is to provide an outlet to the sea, and thus to world markets, for the products of the Continent. There have been altogether too many prophets of the rose-coloured variety describing in glowing terms the effect on transportation and commerce of the deepened waterway. The modern business world is too complex to permit a definite forecast of the effect of a new trade route. Too many incalculable factors are involved. Nevertheless, any invention or improvement that cheapens the final cost of production is an economic good, and the benefit of any such reduction in cost will be distributed according to the demand for the commodity.

In this case the commodity concerned is wheat. The central idea is that the deepened waterway, by eliminating transhipment along the route, will lower the cost of sending wheat to the world market (which may be thought of as Liverpool). But the price of wheat in the world market is fixed not alone by the cost of production and transportation of Canadian grain, but by demand and supply the world over. Consequently, only a small part of the advantage of a lowered cost will be gained by Europe in a lower price, for this price is fixed by a larger law, and the wheat grower of the West will retain the larger part in an increased margin of profit.

*F. W. Taussig, *Principles of Economics*, page 403.

†F. W. Taussig, *Principles of Economics*, page 411.

Based on this theory, innumerable pamphlets and newspaper articles have been published, estimating in the most minute detail the savings per bushel and per ton of wheat and holding forth a dazzling prospect of national prosperity.

There are no statistics to show that the great canal schemes of the past have fulfilled the expectations of their promoters and many have not justified their existence.* As for the St. Lawrence route, many experienced shipping authorities state that the regular passenger and cargo liners would not use the waterway if it were built. "The dangers of manoeuvring liners in and out of locks, the high cost of operating such vessels in restricted waters, and the scarcity of high class freight to and from Canadian ports on the Great Lakes, would preclude the successful operation of this type of vessel through the waterway.† The only ocean-going vessels that would use the waterway are tramp steamers whose movements are influenced by many important considerations. Tramps offer their cargo space wherever they can get a certain and profitable market for it, and rates for its use are subject solely to supply and demand. They would not incur the expense of proceeding from Montreal to the head of the lakes unless they could charge a higher proportionate rate for the inland haul, unless there was a clear profit to be made. There is no guarantee that tramp steamers will be attracted to the St. Lawrence Waterway. If no other reason, the fact that, unlike the other great trade routes, the St. Lawrence is closed by the severity of the Canadian winter for four months of every year, may deter ocean shipping from its use.

One must also consider that the pressure on Canadian transportation facilities is not yet excessive, and railway development is still in advance of population and production.‡

That the problem of freight rates is not more acute is due to the restrictive influence of alternative trade routes, such as the Vancouver-Panama, the anticipated Hudson Bay Route which shortens the haul of grain to Liverpool by 1,000 miles, and the present St. Lawrence Route, on which both Governments have already spent over $129,000,000.

It is unreasonable to expect in Canada, any sudden or miraculous wave of prosperity to follow the completion of the deep waterway. In the United States, where pressure of freight rates is more acute and the number of people concerned is much greater, the St. Lawrence Waterway may bring definite relief and the resulting prosperity may be more marked.

A conservative estimate of the anticipated savings in exports, of which wheat is the most important single item, is to be found in the statistics of Mr. D. T. McLachlan who presented them before the Senate Committee, June, 1928.* The following table gives a summary of his investigations and shows the cost of transporting grain from Fort William to Liverpool by the various possible routes :—

Route.	Cost per ton. (Average of 7 months).
A. Existing Routes.	$
1. All water, transfer at Port Colborne and Montreal	5.92
2. Water and rail, transfer at Port McNicol and Montreal	6.46
3. Water and rail, transfer at Buffalo and New York	6.06
B. With Welland Canal.	
1. All water, transfer at Gananoque and Montreal	5.63
2. All water, transfer at Prescott and Montreal	5.88
C. With complete St. Lawrence Deep Waterway.	
1. All water, no transfer	4.00
2. *All water, transfer at Montreal* ..	*4.64*

This shows a saving by the completed deep waterway of a possible $1.92 over the cheapest route of Class A, and of $1.63 over the cheapest route of Class B. But this is only when the through trip from Fort William to Liverpool is made, and a fair average saving is about $1.50 per ton of wheat or about 4 cents per bushel. In 1926, over 55,000,000 bushels of wheat were exported from Montreal alone.† Mr. McLachlan assumes that abont four million tons of Canadian grain will be available for export per year and reaches the total saving of $6,000,000. The saving on bagged flour is calculated in a similar way at about $3.60 per ton and on package freight at $2·82 per ton. The following total annual saving is quoted for exports :—

		$
Grain	..	.. 6,000,000
Flour	..	.. 1,600,000
Lumber	..	.. 2,400,000
		10,000,000

The chief article of import likely to be affected by the new route is coal. In 1927, 798,289 tons of British anthracite were imported into Canada, of which 80% was received at the port of Montreal. But the rail haul from Montreal

*H. G. Moulton, *Railroads vs. Waterways*, page 42, ff.

†*Proceedings of the Special Committee of the Senate*, No. 5, page 124. Evidence of Mr. A. L. T. MacCallum.

**Proceedings of the Special Committee of the Senate*, No. 10, page 308.

to Toronto prohibits the extensive use of this fuel in central and western Ontario, and the opening of the waterway, making possible a saving of approximately $2.50 a ton in transportation charges, will undoubtedly stimulate this demand for British coal. The St. Lawrence Deep Waterway would also extend westward the frontiers of the market for Nova Scotian coal. How far westward, and how great the saving, it is difficult to predict.

These savings are not mythical, but form the statistical basis for the fact that the Canadian Government has committed itself to the St. Lawrence Development. In what proportions the saving will be shared by Canada and the United States will depend upon the origin of the trade volume.

ECONOMIC ADJUSTMENTS.

Before the effect on commerce of this great transportation reform may be fully appreciated, there are various other aspects to be considered. The St. Lawrence Waterway Plan calls for adjustments in almost every sphere of economic life.

A. Competition with Established Trade Routes.—First, one must consider the new competition that the St. Lawrence route will offer to the other highways. In 1926, Canadian wheat found its way to the world market by the following routes :—

	Bus
1. *Via* Vancouver (Rail to Vancouver, then by water to Asia or through the Panama)	53.0 M.
2. *Via* New York (Rail to Fort William, lake freighter to Fairport, Erie and Buffalo, and rail to New York Coast) ..	..142.2 M.
3. *Via* Montreal (Rail to Fort William, lake freighter to Port McNicol and Midland and rail to Montreal *or* (Canal boat through the Welland and existing St. Lawrence channels)	..58.2 M.

The costs of these routes have also been estimated by the Senate Committee,* with Edmonton as the approximate point of origin.

			$	
1.	*Via* Vancouver	about	11.39	a ton.
2.	,, New York	about	13.26	,,
3.	,, Montreal	about	12.55	,,
	,, (Welland Canal) ..	..	12.34	,,
	,, ,, (completed Waterway and transfer at Montreal)	..	11.27	,,
	,, ,, (completed Waterway and tramp steamer Montreal)	..	10.63	,,

When the St. Lawrence Waterway is complete, and providing the tramps adopt this route, there will be a saving of 76 cents a ton over the Pacific, formerly the cheapest. In other words, the St. Lawrence will compete with the Pacific for the grain of the middle west. The line which represents a sort of "watershed" of grain will move slightly westward, and the volume of St. Lawrence grain will rise in proportion.

The St. Lawrence will compete with the railroads of the American Atlantic States and will undoubtedly force down their freight rates in the struggle for grain. By no means all the New York trade in grain will be turned into the St. Lawrence. There will be an adjustment of freight rates so that the railroads will be able to supplement the transportation facilities of the waterway. Grain will continue to seek the Atlantic Coast because it is there that the tramp steamers call in greatest numbers and offer cheap transportation to Europe. Montreal cannot as yet rival New York as an entrepot.

B. Railroads.—A second consideration is the change in the nature of traffic carried by the railroads which must confine themselves to commodities of high value and small bulk. But there are many commodities to which speed and security in transport are more essential than low rates. If a portion of package freight is diverted to the waterway, railroads will at first feel the loss keenly, as "the transportation capacity of the existing railroads is greatly in excess of the volume of package freight offering at the present time."* It is believed that the industrial expansion in the east due to power development, and the increased purchasing power of the west, with its resulting stimulus to commerce, will shortly compensate them for any loss.

In the United States, diversion of grain traffic to the St. Lawrence will relieve the western railroads whose powers have been taxed to the limit. It is because the railroads of the United States have been unable to handle the seasonal wheat movement that the agitation for the St. Lawrence Route has been so keen in the American West.

C. Shipping.—There will also be an adjustment by shipping interests to the demands of the new route. The great lake freighters are highly specialized carriers similar to nothing else in the world. To the objection that the present ships are unsuited to the long haul on the lakes because of the width, or depth, or length of the boats, the answer is that just as the lake freighters

*Report of Senate Committee.

*Report of Senate Committee, page 309.

were evolved to meet special conditions on the upper lakes, so other shipping will be speedily adopted to new requirements. As long as the economy of water transport is genuine, shipbuilders will adapt the instrument of transportation to the conditions. All the lake ports which may look forwards to expanding trade, must also adjust their harbours and docks to the new shipping opportunities. One hesitates to predict what increase in trade may be waiting around the corner of the years, but it may be noted that since Confederation the volume of our foreign trade (after allowing for price changes) has doubled, on the average, every twelve or fifteen years.

INDUSTRIAL EXPANSION.

Since the development of power is the means whereby the navigation programme of the St. Lawrence is to be financed, the two projects are not easily separable. But there are several aspects of the power development yet to be considered.

The "national" section of the river, which lies entirely in Quebec, will provide about three million horse-power. The market in Canada is not great enough to utilize all this power if it were suddenly available. But by proceeding in careful stages in the "progressive programme" outlined in the recommendations of the International Joint Commission, it is believed that the Quebec area will be able in a short period, to absorb its full quota of power. In any case, there is to be no export.

The International section is also to be developed for power, but political and engineering difficulties will delay this phase. Approximately two million horse-power may be eventually developed, half of which is Canadian and will be available for Ontario. In order that Ontario may not be kept waiting for its power while the Quebec market is expanding, an understanding has been reached between the provinces that a portion of the Quebec power will be sent into the Ontario eastern section.

There is a rapidly increasing demand for electric power, not only in industries but also in homes. Statistics show a steady increase in homes where one or more electrical appliances, such as a washing machine, electric iron, stove, or heater, are in use. In 1923, Canada used twenty million kilowatt hours per day; in 1927, forty million; and in Ontario and Quebec alone, the demand rose from seventeen million in 1923 to thirty-four million in 1927. It is the opinion of scientific men who have become interested in the growth in demand for power, that there is a rapidly expanding market, and the St. Lawrence development is a very timely response to the demand.

Cheap power means increased production throughout the valley of the upper St. Lawrence. In the past, manufactures have been attracted by cheap power whether of coal or electricity, and it may be expected that wherever power is an important item in costs the shores of Ontario and Quebec will loom large as a possible location. For new industries set up in this area, the fairly dense population already there will serve as a market, and the new navigation routes will not only bring raw materials to their very doors but will provide cheap transportation to the world markets for surplus products. The economic ascendancy of England in the nineteenth century was due to a similar combination. England found cheap power in her coal mines and her nearness to the sea provided cheap and convenient transportation. These commodities will re-appear along the St. Lawrence valley when power is released and the waterway completed and an era of great industrial expansion is anticipated.

One interesting aspect of industrial expansion is the demand for capital to finance new enterprises. A great part of this capital must be supplied by the Canadian banks. Much of it will be imported from the United States. Only one million-horse power will be available for the New England States, and this probably will be absorbed by the ordinary expansion of the market. This must mean that capital will flow into Canada to reap the profits of abundant power, not only from the United States but from Europe as well. Canada has already imported foreign capital extensively. If foreign money can earn higher profits here than at home, Canada is really sharing her natural wealth with the whole world, while at the same time the country is opened up and a higher rate of return is made possible for Canadian money.

The idea of "industrial expansion" brings with it a host of related problems,—population, wages, price levels, standard of living; just as the idea of transportation savings invokes a train of speculative thought as to the new purchasing power of the farmer, and the extended margin of cultivation in the west. It has not been the purpose of this discussion to "dip into the future far as human eye can see" in an endeavour to fathom the influence of the new trade route. But it requires no vision to foresee the time when Canadian commerce will pass in triumph "from the River to the ends of the earth".

Vienna as a Model City.

By Franz F. Oberhauser.

A city is like a woman: it likes to be clean and beautiful. It wants to please everybody, but especially strangers. In this respect Vienna is a little vain; it is always making its toilet, just like a woman who many times a day looks at herself in the glass.

When night falls Vienna begins her principal cleaning up. Then most of the population is in the theatres, the motion picture houses, the concert halls, the coffee houses or at home. Now the motor apparatus appears in the street and its work is not less important than that of the Fire Department, for the health of the dwellers in a large city is 50 per cent dependent upon the cleanliness of the town.

Vienna has 11,000,000 square meters of streets and 4,000,000 square meters of sidewalks. The total length of the streets is 1,100 kilometers, 687 miles. The city has 1,200 street cleaners who do their work under the supervision of foremen. Most of the foremen are under control of a city office which gets its orders direct from a central office attached to the Public Vehicles Department. This centralization has made it possible to carry out the mechanization of street cleaning.

After many troublesome attempts a sweeping machine was built at a cost of about Rs. 21,000. It consists of a motor car with a tank holding 3,000 litres of water and a sweeping roller. The motor car draws two simple sweeping machines. A centrifugal pump forces the water through a nozzle, washing the streets over the four meters next to the car. The sweeping rollers are controlled by a wheel and can be lifted up and let down. The brushes of the sweeping rollers are made of piassava, a tropical palm fibre, and as a result of heavy use they last only a week. Vienna uses 50,000 kilograms of piassava yearly at a cost of Rs. 36,000.

For the service of the sweeping machine a chauffeur and three assistants are necessary, and they do the work of sixty street sweepers. Such a machine in a night of eight working hours will sweep thirty-seven miles of streets, or a street surface of 330,000 square meters. When ten of these machines have worked all night, half of all the streets of Vienna are cleaned. The refuse swept up by the machines and deposited at the curb is collected in the morning by the street sweepers and carried off in wooden carts.

A simple little law has been a great help in keeping the streets clean—a law which forbids any one to throw the smallest thing upon the streets. Any one doing so is fined the considerable—for the Viennese—sum of 2 schillings, about 12 annas; which the policeman collects on the spot against a receipt. And the green-coats see to it with argus eyes that the law is obeyed. It follows that the city is obliged to supply places for the people to throw their tram tickets, old newspapers, empty sacks, orange and banana skins. Within a few weeks there appeared more than 30,000 refuse baskets made of iron, which are now attached to almost all the electric light poles, so that to-day in Vienna at every ten steps one can dispose, in a decent manner, of the newspaper he has read.

It has proved to be good business for the city, for in a short time it collected £1,000 in fines, but to-day the people are accustomed to the rule, and, what is more, they are glad to have it.

In the care of the streets is included the work of garbage removal and here Vienna uses the German system known as the Colonia. The municipality has laid out £1,250,000 to establish this system.

These collecting wagons have a content of about twelve cubic meters. On the tops there are two rows of openings after the Colonia patent, which permit the emptying of the specially constructed garbage cans into the wagon absolutely without dust. These garbage cans, of which every house has from three to fifty, according to its size, have a content of about ninety litres, of which four-fifths is available for refuse. The cans are square on top and round on the bottom. They have a swinging cover which snaps automatically. The cans are clamped to the wall about fifteen centimeters above the ground and can easily be emptied by two men into the wagons. A private contractor removes the house garbage and pays the city £11,000 a year for the privilege.

This equipment has been of the greatest benefit to the health of the city. No dust, no ashes, no scraps of paper are to be found anywhere. The work is done in a few minutes and the dust is locked up in the iron wagons.

An investigation has proved that street cleaning as now done in Vienna is cheaper than the old system. The machines do not hold up traffic and they are of the greatest sanitary importance.

India's Blind.

By R. C. Hutchinson.

How many people in India who have occasionally noticed a blind beggar in the streets have ever thought or wondered to what extent blindness and partial blindness prevails in this country? The man-in-the-street, the ordinary passer-by may give some small amount to the blind beggar who asks for alms, with no further thought than that a two-anna piece would help the poor mendicant on his way. May be some might give a second thought, wondering why there are so many blind beggars, and if anything could be done to lessen the numbers one meets in the streets of the big towns and cities.

In the larger towns and cities of India there are Ophthalmic hospitals where treatment may be had free, and some do avail themselves of this treatment. The cities of India are scattered very wide apart and moreover only account for a very small percentage of the population, approximately one-fortieth of the total population. This leaves a population of some 212 millions more or less unprovided for in this grave matter. It is true that there are dispensaries and hospitals in the districts where treatment of a general nature can be had. But how many avail themselves of even this when they have to travel miles for treatment they very often mistrust? The habits and prejudices of a thousand years are not easily eradicated.

The whole question of relief, in so far as modern medicine and surgery is concerned in India, rests on one thing only and that is mass education. Until the greater majority of the peoples in this country are educated in elementary subjects, shaken out of the apathy of thousands of years of ignorance then and not *till then will India begin to look after her own.* India is admittedly a rich country, but like many other countries the riches are in the hands of the few. Unlike other countries those riches in proportion do not seem to be used for the betterment of the mass of the people. The pioneer and humanitarian spirit is lacking in the majority.

In India, over 72 per cent of the population was in 1921 dependent on pasture and agriculture, and it is among these people that medical facilities are so much required. Land revenue is the oldest and most important source of revenue and the gross land revenue paid to the State in 1926-27 amounted to Rs. 3,488 lakhs (£26,162,000). Very little of this great amount returns to the agricultural areas in the shape of education or medical facilities.

Work for Pioneers.

Here then, among this poor population which creates so much wealth, is a great field waiting for the help of the humanitarian, the spirit of pioneer work to lift the people from their age-old habits and customs. It is in this great *field that specialized knowledge is so badly* needed and where in the words of a well-known Ophthalmic Surgeon: "Lie great masses of helpless humanity, submerged in dark pools of blindness." It is a formidable task, this one of opening the eyes of the people and of inculcating a policy of health and simple hygiene.

Admirable work is being done by various agencies such as The Lady Chelmsford All-India League for Maternity and Child Welfare, The Red Cross Society and the work of Mr. F. L. Brayne, I.C.S., in his village uplift scheme. The objects of these agencies are based on broad principles. Another voluntary association has been working quietly and constructively for the past ten years, its object being the prevention and cure of blindness. What more terrible affliction can be imagined in a land such as India with its uneducated masses of people than that of total blindness. Imagine the pain and misery caused by eye-diseases that has to be borne because medical facilities are not to be had, the amount of irreparable damage done to the eyes of these people for want of proper attention.

Blind Relief.

The Blind Relief Association was founded by Mr. C. G. Henderson, I.C.S., in 1919 to deal with this very great and difficult problem. Prevention being its main object, this association's activities are mostly in the rural areas. The towns and cities have their eye hospitals and eye surgeons and, being more conspicuous in the public eye, are helped a great deal more by charitably disposed persons. Blindness in this country is due to a large extent to Cataract, admittedly a disease of old or middle age. Still about 35 per cent of the totally blind in this country are under 40 years of age, the greater proportion of which can be given some measure of sight through operation.

Small-pox is another great cause of blindness, if, as is generally the case in villages, they do not

obtain the necessary care and treatment. Ophthalmia Neonatorum accounts for a great number of blind children and is a serious menace. Conjunctivitis—a disease more prevalent in children than in adults—often leads to ulceration of the cornea and other serious complaints. One could go on enumerating the many causes of blindness, could fill page after page on this subject, and of the abject misery and amount of suffering caused and the pitifully small amount done to relieve.

Of the different associations working in India, the Blind Relief Association is the only voluntary association dealing with preventible blindness. In this country it is computed that four and a half millions of the people are suffering from more or less seriously damaged eyes, and in addition a population of one and a half millions living in a state of total blindness. Figures, the immensity of which one can hardly visualize, and the tragedy of it all is that blindness is, to the extent of probably 90 per cent of it, preventible.

This then is the work that the Blind Relief Association has set itself to do, to bring to the very door of the villages that help which is so much needed. Through lack of funds its field of work is of necessity restricted, but nevertheless wherever it can possibly be of service either by itself or in conjunction with other missionary and pioneer effort it extends. Children are sought out after birth and inspected for the first ten days of life. Whenever an epidemic of small-pox or measles breaks out, its workers are sent to these districts to give treatment and to see that blindness does not result from negligence. Tens of thousands of children are treated every year for granular ophthalmia, and the B. R. A. surgeons by touring from district to district are the means of giving sight to thousands by their operative treatment.

SIGHT TO THE BLIND.

Take Sind for 1927 and here we have in all 15,428 patients treated and 5,134 operations performed. Out of 1,967 totally blind cases in Sind in 1928, 540 cases were given sight. Remarkable is it not and worth while supporting? The Association has other branches at Palanpur, Anand in Gujerat and Chalisgaon where equally good work is being done on a smaller scale. During these tours all schools in the districts are visited and treatment given to any child suffering from eye disease. Generally the schoolmaster is only too willing to help and he is given simple remedies and shown how to use them. Where there are no schools the headman of the village gives his help and adds his authority and here are helps, small in themselves yet leading in some little way to a conscience of communal self-help and breaking down the barrier of customs which so long ingrained in the people, are detrimental to health. Such then is a brief resume of the work of the B. R. A. in bettering and amending, in so far as it is possible, the conditions under which so many millions of the people of India are living. The work, the method of working laid down by Mr. Henderson, has gained the approbation of the majority of the European Ophthalmic Surgeons who have given a life-time of service themselves to India.

A further extension of the work and a scheme similar to that now working in Egypt with such good results is contemplated. This scheme would have a Medical Director in charge. As the work extended more and more surgeons would be required and as each junior surgeon proved himself efficient he would be given charge of a unit, thus creating a service whereby each surgeon would have some chance of rising and with some incentive to better his qualifications. In the words of Sir George Newman :—

"The progress of a nation's health is a secular movement and founded mainly upon an exclusive regard to the immediate interest and problems of human survival. As it must inevitably be the primary, so it is perhaps also the most absorbing, alluring and irresistible of all the active forms of human effort. For here we are dealing with the proposition of remaining alive in the world of enlarging the content of life, of increasing its capacity, of making it larger, happier and more constructive for all men."

Who will help to remove the indictment summarized before, and again repeated, "In the village homes of India lie great masses of helpless humanity, submerged in dark pools of blindness," and in helping, contribute to a nation's content and happiness. Further information will be gladly given and any contribution thankfully received and accepted by R. C. Hutchinson, Organizing Secretary, Blind Relief Association, c/o Gerald L. Chard, Cleave House, Wodehouse Road, Colaba, Bombay 5.

It is announced in Budapest that the task of the newly created Hungarian Ministry of Economy, of which Dr. Bud was appointed head, will be to initiate the revision of commercial treaties with neighbouring States which utilize Hungarian markets. At present Hungary derives no equivalent benefit from these treaties. The revision is expected to bring a material improvement in the trade balance.

Agriculture in Bombay, 1927-28.

By "Agricola".

"The agricultural season of 1927-28 may, on the whole, be described as fairly good. It was, however, characterized by certain outstanding features, some of which were favourable and some detrimental to the healthy development of the crops in different parts of the Bombay Presidency proper." Thus observes the *Season and Crop Report of the Bombay Presidency* for the year 1927-28. Discussing the facts of the season as consecutive links in a chain, it can be said that the season had an auspicious beginning and the good anti-monsoon showers received in many parts in the south of the Presidency, facilitated preparatory tillage in those areas. The rains in June gave sufficient moisture to commence kharif sowings in most parts of the Presidency except in North Gujerat and the eastern parts of the Deccan and Karnatak where they were only light. In July, however, unprecedentedly heavy rains in North Gujerat and Kathiawar produced floods which caused considerable damage to stock and property, and in some cases whole fields of young crops, especially in the low-lying areas, were destroyed. At the same time, a serious deficiency of rain in the south-east of the Presidency checked further kharif sowings and the crops that had been already sown and had germinated were withering. Except in the two tracts mentioned and also South Gujerat where rain was badly needed for rice, conditions were generally satisfactory almost everywhere in the Presidency. From the beginning of August to the middle of September, the rainfall was much below the average. This reacted differently in different tracts according to the nature of the preceding rain. Thus in North Gujerat, it proved a definite boon as it enabled the cultivators to resow the flooded areas with suitable crops; in the south-east of the Presidency, it was the cause of further deterioration in the withering kharif crops while in the rest of the Presidency, the crops were simply surviving on the strength of previous moisture and they badly required immediate good rains. A rather serious attack of grass-hoppers was also experienced in the Deccan and Karnatak, from Nasik down to Dharwar, which further aggravated the situation. Very luckily, the anxiously awaited rain came during the last week of September and this continued in the first half of October. It indeed proved to be the turning point in the fortunes of the season, especially in the Deccan and Karnatak, where it not only revived the withering crops but it also checked the grasshopper attack, which had assumed a serious aspect in places. Fairly heavy and widespread rain was received in November which, though it spoiled the ripe kharif crops, rather seriously in places, proved on the whole very opportune and beneficial to the young rabi crops. Rains in February and March were injurious to the rabi crops ready for harvest or lying cut in the threshing yards, especially in the Karnatak, where cotton was spoiled to a considerable extent.

In Sind, the unfavourable inundation of the river, excessive July rains, locusts and frost in January had very prejudicial effects on the development of both the kharif and rabi crops so that their yield, in most places, was very much below the normal.

Area under Cultivation.

The total cultivated area in the Presidency proper was 33,543,000 acres while in Sind it was 9,499,000. The total cropped area in the Presidency was 29,006,000 acres of which 19,969,000 acres produced food crops and 9,037,000 acres non-food crops. In Sind the total cropped area was 4,583,000 acres of which 3,807,000 produced food crops and 4,583,000 non-food crops. In the Bombay Presidency proper, the gross cropped area expanded by 794,000 acres. The most noticeable increase (+495,000 acres) occurred in the Deccan, excepting East Khandesh, due to the favourable rains which encouraged extensive cultivation in most parts of the Division and in the Karnatak (+172,000 acres) due to generally sufficient rains, late in the season, which gave an impetus to rabi sowings on a very large scale. Gujerat, (+88,000 acres, except Ahmedabad and Konkan (+39,000 acres) also contributed to the increase. In the Ahmedabad district, however, there was a slight decrease (—14,000 acres) due to excessive rains and floods during the last week of July.

The area cropped twice showed an extension of 250,000 acres in the Bombay Presidency proper, the increase being shared by all the Divisions except the Konkan. It was specially marked in the Deccan where the double cropped area advanced by 160,000 acres, due to the abundant rains of the season which left ample moisture in the soil for a second crop to be taken on the same land. The same cause brought about an extension, though to a much less extent, in Gujerat (+68,000 acres) and in the Karnatak (+38,000 acres).

Nature of the Crops.

About two-thirds of the cultivated area of the Presidency is devoted to growing food-stuffs, jowar, bajri, rice, wheat and gram being the most important crops. Cotton is the largest non-food crop.

In the Bombay Presidency proper, the area under food-crops advanced by 204,000 acres or 1.0 per cent over the previous year and by 494,000 acres or 2.5 per cent as compared with the average. Among the kharif crops, bajri showed a decline of 23,000 acres below the previous year, partly through the fear of grass-hopper attack in the Deccan and partly owing to excessive July rains in North Gujerat; while rice showed an expansion of 42,000 acres due to favourable rains. Among the rabi crops, jowar showed a setback of 187,000 acres, due to the unsuitability of the rains for this crop, while wheat and gram showed an advance of 147,000 acres and 112,000 acres respectively over the previous year owing to the favourable late rains of the season in most parts of the Presidency. The area under sugarcane remained almost stationary.

The area under non-food crops expanded by 590,000 acres or 7.0 per cent over the previous year and by 1,593,000 acres or 21.4 per cent as compared with the average. The most noticeable increase was under cotton (+347,000 acres) and groundnut (+138,000 acres) due to the popularity of these crops as they find a ready market and fetch good prices.

The net result of these variations in the food and non-food crops was an increase of 794,000 acres or 2.8 per cent over the total cropped area of the previous year and of 2,087,000 acres or 7.8 per cent as compared with the average.

In Sind, with the exception of rice and bajri which advanced by 102,000 acres and 12,000 acres respectively over the previous year, the area under almost all the crops, both food and non-food, showed a general setback of 70,000 acres below the previous year due to deficient water supply on account of late and low inundation and premature and rapid fall of the river.

Jowar and Bajri.—The area under jowar (chiefly rabi) showed a considerable setback of 211,000 acres and 679,000 acres respectively below the previous year and the normal in the Bombay Presidency, a decrease being shared by all the Divisions. The area under bajri was 11,000 acres less than the previous year though it advanced by 457,000 acres over the normal. It showed a slight improvement in the Deccan and Karnatak but a marked decline in North Gujerat, due to the excessive rains and floods in July.

Rice.—The area under rice, in the Bombay Presidency proper, increased by 42,000 acres or by 2.1 per cent over the previous year, the chief increase being shared by North Gujerat (+23,000 acres) and the Deccan (+19,000 acres) due to the favourable rains at the time of sowing. There was also a slight increase in the Karnatak (+5,000 acres) against which there was a similar decrease in the Konkan (−4,000 acres), where more area was put under rabi in the Ratnagiri district.

In Sind, the area under the crop expanded by 102,000 acres or 9.8 per cent as compared with the previous year, the increase being contributed by Larkana (+54,000 acres), Upper Sind Frontier (+32,000 acres) and Sukkur (+19,000 acres) under the incentive of the high prices fetched by this grain as compared with other food grains.

Wheat.—In the Bombay Presidency proper, the area under wheat extended by 147,000 acres or 11.0 per cent over the previous year. The most marked increase occurred in the Deccan (+154,000 acres).

In Sind the area under the crop declined by 74,000 acres or by 15.8 per cent below the previous year owing to the premature fall in the river.

Oil-seeds.—The area under oil-seeds, in the Bombay Presidency proper, expanded by 214,000 acres or 18.4 per cent over the previous year, and by 561,000 acres or 6?.6 per cent when compared with the average.

In Sind, on the other hand, the area under oil-seeds was less by 24,000 acres or 7.1 per cent below the previous year and by 45,000 acres or 12.6 per cent as compared with the average.

Groundnut.—The crop is becoming more and more popular with the cultivators every year. The area under the crop showed a substantial increase in the Deccan (+94,000 acres) and the Karnatak (+42,000 acres).

Cotton.—The cultivation of cotton showed an extension of 347,000 acres or 8.1 per cent over the previous year owing to the high prices fetched by cotton in recent years and the favourable rains at the time of sowing in most parts of the Presidency. The increase in area was general but was most noticeable in the Deccan (+205,000 acres), the Karnatak, (+73,000 acres) and Gujerat (+70,000 acres).

In Sind, on the other hand, there was a decline of 61,000 acres, mostly in the Thar Parkar and Nawabshah districts as a result of the unfavourable inundation of the river.

Sugarcane.—The area under this crop remained almost stationary both in the Bombay

Presidency proper (65,000 acres) and in Sind (3,000 acres).

Tobacco.—The area under this crop increased by 15,000 acres or 14.8 per cent over the previous year in the Bombay Presidency proper, most of the increase occurring in the Kaira and Satara districts.

In Sind, the area under tobacco remained almost the same (8,000 acres) as last year.

IRRIGATED AREA.

In the Bombay Presidency proper, the area irrigated showed a decline of 58,000 acres or 5.7 per cent below the previous year, having declined from 1,023,000 acres in the last year to 965,000 acres during the year under report. Almost the whole of the decline occurred in the Deccan where, owing to the favourable character of the season, less necessity was felt to resort to irrigation sources.

In Sind also, the irrigated area contracted by 130,000 acres or 4.2 per cent from 3,113,000 acres during the previous year to 2,983,000 acres during the year under review as a result of the unfavourable inundation of the river.

While the area under food-grains in the Bombay Presidency proper expanded by 1.3 per cent the outturn increased by as much as 13.2 per cent as compared with the previous year, thus depicting the general favourable character of the season during the year under report.

In Sind, on the other hand, as a result of the late rise and early fall of the river, the area under food-grains curtailed by 0.7 per cent while the outturn decreased by as much as 10.3 per cent below the previous year.

Prudence is an excellent virtue—but don't confuse it with timidity.

Federal Finance: A Review.*

By A. S. Venkataraman, B.A.

Prof. Shah's reputation as economist and financier has been well established by eight books of his and the addition of a ninth volume is designed to confirm his position as an acknowledged authority. It were easy, were it necessary, to dilate on the Professor's qualifications for his task. Apart from the Professor's reasons regarding the choice of the subject on 'Federal Finance' in the historic city of Patna, the capital of an empire, which must have had some kind of federal finance in practice, the appropriateness is greatly enhanced by the new Commissions at work whose reports are eagerly awaited. The Simon Commission may, it is fondly hoped, envisage all features of a federal constitution so far as the provinces are concerned at least though the inclusion of the Indian States in any federal scheme is yet as far off as ever, now that the Butler Committee has published its report. The Simon Commission is also assisted by two auxiliary committees, one, the Hartog Committee and another, Layton Committee. The volume entitled *Federal Finance* will, I deem, be a very useful volume to those interested in the future of India and quite valuable as a stimulating study of a problem peculiar to India, consisting of British Provinces and Indian States, major and minor. The handling of the problem too has been very deft, clear and precise and at the same time popular and free from all the high abstruseness and technical terminology of experts.

In his first lecture, the Professor reviews the evolution and the present practice in respect of federal finance including its characteristics and basic features. In examining the different federations and in deducing the general financial principles of modern federations, as they are working, the author's method has been largely inductive and therefore commendable. The Swiss Federation is a standing example of local autonomy tempered, it may be, with national cohesion and each canton possessed and possesses powers which are left in the hands of Federations in other cases. We need mention only the canton's powers over currency, legal tender and direct taxation. The federation of Australia, however, is another extreme where experiments in centralization are being tried. The Consolidated Revenue Fund is noteworthy and the constituent States draw on it annually, on a population basis. Between these two extremes, other federations stand nearer the one for the other. On the principles of Federal Finance, we need not dwell long. Federations have had their origin in an urge to unite, among several States, the greater the danger, the stronger the Federation. Economic considerations, too, of a national character

*By K. T. Shah, Professor of Economics, University of Bombay. Published by D. B. Taraporevala Sons & Co., Kitab Mahal, Hornby Road, Bombay (1929). Price Rs. 6.

have had a determining influence. Customs Revenue and, in general, indirect taxes are largely federal, while direct taxes are not so, in order to compel an abiding interest in the State's affairs by its citizens. Now this Customs Revenue, largely a federal source, is now also implemented for industrial development. If the customs revenue is designed for revenue purposes, then a counter-vailing excise duty on home-products is also introduced. If customs and excise are failing and when the urge of national development is persistent, then excursion into direct taxation is attempted. In that case, central subsidies arise, a feature of our age. One strong tendency of the age is to subordinate the States to the Federation, though outwardly, formally and legally the State autonomy is applauded. We notice now two results of this tendency, the State's unwillingness to surrender its claims to Direct Taxation and the creation of a margin of debatable ground giving rise to the problem of Double Taxation. The dividing line between a Federation and a State enterprise is not difficult but the difficulty, if any, arises over expenditure. Though the States have powers of borrowing, in effect they are infructuous as debt arrangements are made by the central authority. The important federal subjects are coinage, currency and control over banking, for federations have to shoulder the responsibilities of national credit and defence.

In his second lecture, the author is at pains to point out how the goal of India's national development, *viz.*, federal organization, has been striven after. The Indian constitution is now federal in form, if not in intent and the tendency is noticeable since 1773. A stiffening attitude on the part of the Central Government was much in evidence and more so after 1858. The first step in de-centralization and in federation too, was taken when the Mayo Scheme was introduced in 1870. A lump sum to each province was assigned on the basis of its requirements and probably, the existing expenditure was taken as normal. The defects were obvious. The arrangement was unstable, being a hardy annual, and ill-founded, as there was no basis for judging the needs of a province. The Imperial exigencies were the dominant consideration, while the initiative in Provinces was absent. A step in advance was taken in 1877, when departments like Land Revenue, Excise, Stamps, Law and Justice, were made over to the Provinces and a share in specified sources of revenue granted to them. This quinqnennial contract system was in force from 1877 to 1904. It was distinctly a step on the road to Federalism, though the settlement was prompted by considerations of administrative convenience. The dedication of all income in some specified departments and the abolition of lump sum grants were set off by the confiscation of accumulated balances in Provincial Governments. It was for the first time in 1904 that the five-year contract system gave way to a quasi-permanent arrangement. In the years 1904 to 1912, there was a conflict between the old principle of observing the convenience of the Imperial Government and the new ideal of encouraging the development of the provincialized services. Still, the Provinces had serious handicaps, as powers of taxation and borrowing were denied to them. Autonomy must carry with it the power to taxation. With the Reforms, 'divided heads' were abolished. Land Revenue, Stamps and Excise became wholly Provincial. Customs, salt, opium and income-tax became Imperial. Commercial services, debt and defence obligations, all became Imperial likewise. The deficit in the Central Government was to be made up first by a contribution equal to 87% of the surplus in each province and later according to Meston Award, the basis of apportionment of deficit was to be the additional spending power, which would be placed at the disposal of the Provinces under the new arrangements. Later still, when the Provincial contributions were abolished, the injustice to Provinces and the inequalities between Province and Province, agricultural and other Provinces continue. All the while, irresistible are the leanings towards Financial Federalism, which will be neither complete nor logical nor satisfactory if it leaves out the States.

Lecture III surveys the sources of Public Revenue in India with a view to their suitability for Federal or Provincial management. The Provincial revenues at present form 41% of the total while Central Revenues are 59% and the position is not unfavourable when compared with the finance in some of the federations of the world. The customs form an exclusively federal item responsible for 50 crores, at present, a most considerable single item of the aggregate Indian Revenues. The tax on income is an anomaly. Land Revenue is a provincial item while income-tax is central. In federations, where direct taxation is practised by the Federal authorities, the States levy an additional tax or claim a share in the receipts. Some such solution is inevitable in Indian Finance. In the matter of solving the problem of Double Taxation, the author advocates the reciprocal exemption of the non-

residents in order to do away with the anomaly of exempting non-resident foreigners but not exempting Indians, not resident in British territories. Salt is a suitable central item, as an indirect tax but excise in India is a provincial item. Opium is diminishing in importance. The commercial undertakings, Posts, Telegraphs and Railways are largely federal. In every federation, currency and mint are central items, just as military expenditure is met from a federal source.

In Provincial items, Land Revenue is of great importance. As it offends against the canons of public economy and social justice, it requires radical revision, before it can be accepted as an item in federal finance; so also Excise, Stamps, Registration and Forest are all complicated from the point of view of Federal Finance. In this respect the findings of the Taxation Enquiry Committee are largely re-actionary.

In Lecture IV the author reviews the public expenditure in British India. The fall in the years 1921–28 is due more to an increase in the exchange value of the rupee than to any retrenchment. According to the Professor, the basic principle of true federal organization defeated or evaded by the existence of this item (Home charges) and the only way to realize the ideal of perfect federation would be progressively to reduce this item or abolish it. While defence, debt and development are Imperial items, others may be shared in varying proportions by the Central and Provincial Governments. In general, there is room for retrenchment and re-adjustment in expenditure, Imperial and Provincial. The criterion of improvement is not supplied by money figures alone. Adequate provision must be made for the minimum of requirements. Any scheme of financial reconstruction will not alter the functions and obligations between Imperial and Provincial Governments and the volume of expenditure will have to be reconsidered. The Imperial Budget has to be reduced according to the author to 110 crores, while the Provincial Budgets have to be increased to 135 crores.

In Lecture V, the Professor takes the cudgels against the school of thought which is not in favour of assimilation of Indian States with British India. As it is, some difficulties have to be got over. Incomes arising in British India but due to the Indian States are not exempt from taxes. The customs revenue is solely enjoyed by the British Government and the States are at a serious disadvantage, being deprived of part of the proceeds of customs revenue and customs duties are levied in their own interests by the British Government. The basic idea of customs therefore causes uneasiness to the States, who have a claim and its money value may be adjudged on the basis of population, trade or consumption of taxed articles. The same thing applies to salt revenue. In the matter of railways, the States have no share in the surplus nor do they enjoy any facilities in trade, industries, transport of troops, etc. In other respects too, their share is shadowy. A share in profits on the basis of population is recommended. In military policy too, there is an apprehension that the States' interests are being neglected.

The real problem in India, as indicated in Lecture VI, is created because of the States' demand for a share in (1) the profits on metallic coinage, (2) receipts of the Government, especially interest held on securities in currency reserves, (3) fair treatment in currency manipulation (the British Government may act as the banker and financier of States), and (4) adequate representation in the Reserve Bank or the Imperial Bank.

The author throws out some suggestions, which would be clearer, if more elaborate. A federal council is envisaged, consisting of representatives, one ruling prince of each big State, an elected deputy from a single unit of smaller States (there will be many such units), the Governor of each Province or President, and a premier. The functions of the body are to be advisory in the case of States. The financial proposals too are noteworthy and they are:—Assignments of indirect taxes to the Central Government, direct taxes to the Provinces, the reform of direct taxation by the institution of additional death duties for the benefit of Federal Government, likely to bring in 50 crores of which 30 crores may be left to the Provinces, the exploitation of post office, railways and State banking which would bring in 20 more crores, retrenchment in central expenditure so as to make it 110 crores, the provincial deficit to be made up by central subinventions or additional taxes on excise by the Provinces.

Much as one likes to applaud the treatise as being the first on the subject, the shortcomings too or the differences of view have to be indicated. I do not know if politics and economics can be viewed apart in a subject on Indian Federation. At any rate, there is a lack of emphasis of the idea that the political and legal relations between the Central Government and the States have to be defined first before any schemes of federal finance can be

seriously discussed. If, however, this is claimed as a basis of discussion in proposals on Indian Federation, this is quite in its place. Prof. K. T. Shah did not have the advantage of the Butler Committee Report. Secondly, the title "careful and exhaustive study of financial relations between the Central and Provincial Governments in British India as well as Indian States" is as ambitious as it is vague and misleading. For one thing, the discontent among Provinces on the question of Meston Settlement has not been sufficiently brought out and the point of view of agricultural provinces not discussed. This "vexed, intricate and indispensable problem" of the Meston Award, the inequality between province and province and the injustice by the Central Government, cry out for a liberal measure of sympathetic treatment at the hands of Prof. K. T. Shah. Again, in the matter of allocation of resources on relations between the Central and Provincial Governments, I feel that the idea of 'doles' is loathsome, separation of resources sufficiently bad and 'divided heads' intolerable in practice. I seriously doubt whether any kind of federal financing can be scientific. The inherent defect of any scheme is likely this *viz.*, the expenditure in a year is taken to be normal. Prof. Shah's scheme is open to the very objections which he brings forward against the Taxation Enquiry Committee, especially the questions of central subsidies and double taxation. In the matter of apportionment, one method seems feasible or at any rate less defective than any other. The assessment and administration of sources of revenue are assigned either to one authority or the other but their proceeds are divided between two or more jurisdictions in certain proportions. This mode is becoming common on account of the difficulty of providing sufficient revenues for the different grades of governments in any other way.

On the whole, the treatise is admirable on a subject of interest, importance and intricacy and the author's views are strikingly original and refreshing. The style is racy and dignified.

Notes from U. S. A.

President Hoover's Speech.

Washington, March 4.—With simple forceful language reflective of his own personality, Herbert Hoover to-day dedicated himself and his administration to law enforcement at home and the promotion of peace throughout the world.

These two purposes stood out in bold relief in his inaugural address, delivered from a simply decorated stand on the east front of the capitol after he had taken the oath as the thirty-first president of the United States.

Declaring that the most malign of all the dangers from which self-government must be safeguarded to-day is the disregard and disobedience of law, the president said that "to consider these evils, to find their remedy, is the sorest necessity of our times."

"Rigid and expeditious justice is the first safeguard of freedom, the basis of all ordered liberty, the vital force of progress," he said. "It must not come to be in our republic that it can be defeated by the indifference of the citizen, by exploitation of delays and entanglements of the law, or by combinations of criminals."

Turning to the enforcement of the 18th amendment, Mr. Hoover asserted that abuses which had grown up around it are due in part to the failure of someStates to accept their share of the responsibility for concurrent enforcement and to the failure of many State and local officials to zealously enforce the law.

"But a large responsibility rests directly upon our citizens," he asserted. "There would be little traffic in illegal liquor if only criminals patronized it. The duty of citizens to support the law is co-equal with the duty of their government to enforce the laws which exist."

The text of the inaugural address of President Hoover follows :

My countrymen,

This occasion is not alone the administration of the most sacred oath which can be assumed by an American citizen. It is a dedication and consecration under God to the highest office in service of our people. I assume this trust in the humility of knowledge that only through the guidance of Almighty Providence can I hope to discharge its ever-increasing burdens.

It is in keeping with tradition throughout our history that I should express simply and directly the opinions which I hold concerning some of the matters of present importance.

Our Progress.

If we survey the situation of our nation both at home and abroad we find many satisfactions; we find some causes for concern. We have

emerged from the losses of the great war and the reconstruction following it with increased virility and strength. From this strength we have contributed to the recovery and progress of the world. What America has done has given renewed hope and courage to all who have faith in government by the people. In the large view, we have reached a higher degree of comfort and security than ever existed before in the history of the world. Through liberation from widespread poverty we have reached a higher degree of individual freedom than ever before. The devotion to and concern for our institutions are deep and sincere. We are steadily building a new race—a new civilization great in its own attainments. The influence and high purposes of our nation are respected among the peoples of the world. We aspire to distinction in the world, but to a distinction based upon confidence in our sense of justice as well as our accomplishments within our own borders and in our own lives. For wise guidance in this great period of recovery the nation is deeply indebted to Calvin Coolidge.

But all this majestic advance should not obscure the constant dangers from which self-government must be safeguarded. The strong man must at all times be alert to the attack of insidious disease.

FAILURE OF SYSTEM OF CRIMINAL JUSTICE.

The most malign of all these dangers to-day is disregard and disobedience of law. Crime is increasing. Confidence in rigid and speedy justice is decreasing. I am not prepared to believe that this indicates any decay in the moral fibre of the American people. I am not prepared to believe that it indicates an impotence of the federal government to enforce its laws.

It is only in part due to the additional burdens imposed upon our judicial system by the 18th amendment. The problem is much wider than that. Many influences had increasingly complicated and weakened our law enforcement organization long before the adoption of the 18th amendment.

To re-establish the vigour and effectiveness of law enforcement we must critically consider the entire federal machinery of justice, the redistribution of its functions, the simplification of its procedure, the provision of additional special tribunals, the better selection of juries, and the more effective organization of our agencies of investigation and prosecution that justice may be sure and that it may be swift. While the authority of the federal government extends to but part of our vast system of national, state and local justice, yet the standards which the federal government establishes have the most profound influence upon the whole structure.

We are fortunate in the ability and integrity of our federal judges and attorneys. But the system which these officers are called upon to administer is, in many respects, ill adapted to present-day conditions. Its intricate and involved rules of procedure have become the refuge of both big and little criminals. There is a belief abroad that by invoking technicalities, subterfuge and delay the ends of justice may be thwarted by those who can pay the cost.

Reform, reorganization and strengthening of our whole judicial and enforcement system, both in civil and criminal sides, have been advocated for years by statesmen, judges and bar associations. First steps toward that end should not longer be delayed. Rigid and expeditious justice is the first safeguard of freedom, the basis of all ordered liberty, the vital force of progress. It must not come to be in our republic that it can be defeated by the indifference of the citizen, by exploitation of the delays and entanglements of the law, or by combinations of criminals. Justice must not fail because the agencies of enforcement are either delinquent or inefficiently organized. To consider these evils, to find their remedy, is the sorest necessity of our times.

ENFORCEMENT OF THE 18TH AMENDMENT.

Of the undoubted abuses, which have grown up under the 18th amendment, part are due to the causes I have just mentioned ; but part are due to the failure of some States to accept their share of responsibility for concurrent enforcement and to the failure of many State and local officials to accept the obligation under their oath of office zealously to enforce the laws. With the failures from these many causes has come a dangerous expansion in the criminal elements, who have found enlarged opportunities in dealing in illegal liquor.

But a large responsibility rests directly upon our citizens. There would be little traffic in illegal liquor if only criminals patronized it. We must awake to the fact that this patronage from large numbers of law-abiding citizens is supplying the rewards and stimulating crime.

I have been selected by you to execute and enforce the laws of the country. I propose to do so to the extent of my own abilities but the measure of success that the government shall attain will depend upon the moral support which you, as citizens, extend. The duty of

citizens to support the laws of the land is co-equal with the duty of their government to enforce the laws which exist. No greater national service can be given by men and women of good-will—who, I know, are not unmindful of the responsibilities of citizenship—than that they should be their example, assist in stamping out crime and outlawry by refusing participation in and condemning all transactions with illegal liquor. Our whole system of self-government will crumble either if officials elect what laws they will enforce or citizens elect what laws they will support. The worst evil of disregard for some law is that it destroys respect for all law. For our citizens to patronize the violation of a particular law on the ground that they are opposed to it is destructive of the very basis of all that protection of life, of homes and property which they rightly claim under other laws. If citizens do not like a law, their duty as honest men and women is to discourage its violation; their right is openly to work for its repeal.

To those of criminal mind there can be no appeal but vigorous enforcement of the law. Fortunately they are but a small percentage of our people. Their activities must be stopped.

President Herbert Hoover and Vice-President Charles Curtis.

A National Investigation.

I propose to appoint a national commission for a searching investigation of the whole structure of our federal system of jurisprudence, to include the method of enforcement of the 18th amendment and the causes of abuse under it. Its purpose will be to make such recommendations for reorganization of the administration of federal laws and court procedure as may be found desirable. In the meantime it is essential that a large part of the enforcement activities be transferred from the treasury department to the department of justice as a beginning of more effective organization.

The Relation of Government to Business.

The election has again confirmed the determination of the American people that regulation of private enterprise and not government ownership or operation is the course rightly to be pursued in our relation to business. In recent years we have established a differentiation in the whole method of business regulation between the industries which produce and distribute commodities on the one hand and public utilities on the other. In the former our laws insist upon effective competition; in the latter, because we substantially confer a monopoly by limiting competition, we must regulate their services and rates. The rigid enforcement of the laws applicable to both groups is the very base of equal opportunity and freedom from domination for all our people, and it is just as essential for the stability and prosperity of business itself as for the protection of the public at large. Such regulation should be extended by the federal government within the limitations of the constitution and only when the individual States are without power to protect their citizens through their own authority. On the other hand, we should be fearless when the authority rests only in the federal government.

Co-operation by the Government.

The larger purpose of our economic thought should be to establish more firmly stability and security of business and employment and thereby remove poverty still further from our borders. Our people have in recent years developed a new-found capacity for co-operation among themselves to effect high purposes

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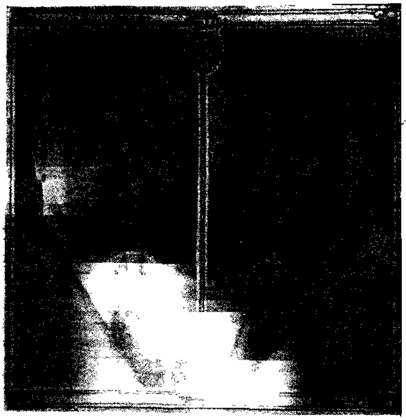

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CO-OPERATION BY THE GOVERNMENT.

The larger purpose of our economic thought should be to establish more firmly stability and security of business and employment and thereby remove poverty still further from our borders. Our people have in recent years developed a new-found capacity for co-operation among themselves to effect high purposes

in public welfare. It is an advance toward the highest conception of self-government. Self-government does not and should not imply the use of political agencies alone. Progress is born of co-operation in the community—not from governmental restraints. The government should assist and encourage these movements of collective self-help by itself co-operating with them. Business has, by co-operation, made great progress in the advancement of service, in stability, in regularity of employment and in the correction of its own abuses. Such progress, however, can continue only so long as business manifests its respect for law.

There is an equally important field of co-operation by the federal government with the multitude of agencies, State, municipal and private, in the systematic development of those processes which directly affect public health, recreation, education and the home. We have need further to perfect the means by which government can be adapted to human service.

EDUCATION.

Although education is primarily a responsibility of the States and local communities, and rightly so yet the nation as a whole is vitally concerned in its development everywhere to the highest standards and to complete universality. Self-government can succeed only through an instructed electorate. Our objective is not simply to overcome illiteracy. The nation has marched far beyond that. The more complex the problems of the nation become the greater is the need for more and more advanced instruction. Moreover, as our numbers increase and as our life expands with science and invention, we must discover more and more leaders for every walk of life. We cannot hope to succeed in directing this increasingly complex civilization unless we can draw all the talent of leadership from the whole people. One civilization after another has been wrecked upon the attempt to secure sufficient leadership from a single group or class. If we would prevent the growth of class distinctions and would constantly refresh our leadership with the ideals of our poeple, we must draw constantly from the general mass. The full opportunity for every boy and girl to rise through the selective processes of education can alone secure to us this leadership.

PUBLIC HEALTH.

In public health the discoveries of science have opened a new era. Many sections of our country and many groups of our citizens suffer from diseases the eradication of which are mere expenditure. Public health service should be as fully organized and as universally incorporated into our governmental system as is public education. The returns are a thousandfold in economic benefits, and infinitely more in reduction of suffering and promotion of human happiness.

WORLD PEACE.

The United States fully accepts the profound truth that our own progress, prosperity and peace are interlocked with the progress, prosperity and peace of all humanity. The whole world is at peace. The dangers to a continuation of this peace to-day are largely the fear and suspicion which still haunt the world. No suspicion or fear can be rightly directed toward our country. Those who have a true understanding of America know that we have no desire for territorial expansion for economic or other domination of other peoples. Such purposes are repugnant to our ideals of human freedom. Our form of government is ill adapted to the responsibilities which inevitably follow permanent limitation of the independence of other peoples. Superficial observers seem to find no destiny for our abounding increase in population, in wealth and power except that of imperialism. They fail to see that the American people are engrossed in the building for themselves of a new economic system, a new social system, a new political system—all of which are characterized by aspirations of freedom of opportunity and thereby are the negation of imperialism. They fail to realize that because of our abounding prosperity our youth are pressing more and more into our institutions of learning; that our people are seeking a larger vision through art, literature, science and travel; that they are moving toward stronger moral and spiritual life—that from these things our sympathies are broadening beyond the bounds of our nation and race toward their true expression in a real brotherhood of man. They fail to see that the idealism of America will lead it to no narrow or selfish channel, but inspire it to do its full share as a nation toward the advancement of civilization. It will do that not by mere declaration but by taking a practical part in supporting all useful international undertakings. We not only desire peace with the world, but to see peace maintained throughout the world. We wish to advance the reign of justice and reason toward the extinction of force.

The recent treaty for the renunciation of war as an instrument of national policy sets an advanced standard in our conception of the

pave the way to greater limitation of armament the offer of which we sincerely extend to the world.

But its full realization also implies a greater and greater perfection in the instrumentalities for pacific settlement of controversies between nations. In the creation and use of these instrumentalities we should support every sound method of conciliation, arbitration and judicial settlement. American statesmen were among the first to propose and they have constantly urged upon the world, the establishment of a tribunal for the settlement of controversies of a justifiable character. The permanent court of international justice in its major purpose is thus peculiarly identified with American ideals and with American statesmanship. No more potent instrumentality for this purpose has ever been conceived and no other is practicable of establishment. The reservations placed upon our adherence should not be misinterpreted. The United States seeks by these reservations no special privilege or advantage but only to clarify our relation to advisory opinions and other matters which are subsidiary to the major purpose of the court. The way should, and I believe will, be found by which we may take our proper place in a movement so fundamental to the progress of peace.

Our people have determined that we should make no political engagements such as membership in the League of Nations, which may commit us in advance as a nation to become involved in the settlements of controversies between other countries. They adhere to the belief that the independence of America from such obligations increases its ability and availability for service in all fields of human progress.

I have lately returned from a journey among our sister republics of the western hemisphere. I have received unbounded hospitality and courtesy as their expression of friendliness to our country. We are held by particular bonds of sympathy and common interest with them. They are each of them building a racial character and a culture which is an impressive contribution to human progress. We wish only for the maintenance of their independence, the growth of their stability and their prosperity. While we have had wars in the western hemisphere, yet on the whole the record is in encouraging contrast with that of other parts of the world. Fortunately the new world is largely free from the inheritances of fear and distrust which have so troubled the old world. We should keep it so.

It is impossible, my countrymen, to speak of peace without profound emotion. In thousands of homes in America, in millions of homes around the world, there are vacant chairs. It would be a shameful confession of our unworthiness if it should develop that we have abandoned the hope for which all these men died. Surely civilization is old enough, surely mankind is mature enough so that we ought in our own lifetime to find a way to permanent peace. Abroad, to west and east, are nations whose sons mingled their blood with the blood of our sons on the battlefields. Most of these nations have contributed to our race, to our culture, our knowledge and our progress. From one of them we derive our very language and from many of them much of the genius of our institutions. Their desire for peace is as deep and sincere as our own.

Peace can be contributed to by respect for our ability in defence. Peace can be promoted by the limitation of arms and by the creation of the instrumentalities for peaceful settlement of controversies. But it will become a reality only through self-restraint and active effort in friendliness and helpfulness. I covet for this administration a record of having further contributed to advance the cause of peace.

Party Responsibilities.

In our form of democracy the expression of the popular will can be effected only through the instrumentality of political parties. We maintain party government not to promote intolerant partisanship but because opportunity must be given for expression of the popular will, and organization provided for the execution of its mandates and for accountability of government to the people. It follows that the government both in the executive and the legislative branches, must carry out in good faith the platforms upon which the party was entrusted with power. But the government is that of the whole people; the party is the instrument through which policies are determined and men chosen to bring them into being. The animosities of elections should have no place in our government, for government must concern itself alone with the common weal.

Special Session of Congress.

Action upon some of the proposals upon which the republican party was returned to power, particularly further agricultural relief and limited changes in the tariff, cannot in justice to our farmers, our labor and our manufacturers be postponed. I shall therefore request a special session of congress for the consideration of these two questions. I shall deal with each of them upon the assembly of the congress.

recommendations of the Economic Conference or acting in a manner inconsistent with the objects of the League of Nations.

2. *Collective action for the reduction of Customs Tariffs.*—The Committee continued its enquiry on cement and noted that a large number of countries concerned in the production of land trade in cement would be willing to take part in a meeting to examine the customs regime applicable to that product.

The Committee was unable to form a definite opinion with regard to certain Latin-American countries which play an important part in the international cement trade. It accordingly preferred, before coming to a decision, to arrange for a consultation between experts of the cement industry with a view to supplementing its preliminary studies.

The Committee therefore set up a delegation composed of Messrs. Trendelenburg, Schuller, Serruys and Sir Sydney Chapman, instructing it to proceed to this consultation. Subject to such modifications as the delegation itself may make in the list, experts from the following countries will be invited to attend: Germany, Austria, Belgium, Denmark, Great Britain, United States, France, Hungary, Italy Norway, Netherlands, Poland, Roumania, Serb-Croat-Slovene Kingdom, Switzerland, Czechoslovakia. The meeting will be held in the early autumn.

The other products which the Committee has included in its programme for collective action are iron and steel, wood, hides and skins, fresh fruit and vegetables, etc. It decided to continue its enquiries with the aid of reports and notes prepared by its members.

3. *Coal.*—Following the two consultations which have taken place on the subject of coal, the Committee prepared a preliminary report for the Council outlining the more characteristic international aspects of the problem, while expressing its opinion that further consultations would be necessary before formulating conclusions or recommendations.

The Committee observes in this report that it desires to consult experts who are familiar with all the important aspects of the question (production, labour, trade and consumption). It adds that it has studied considerable material prepared by experts or collected by its members in their respective countries as well as by the League Secretariat and the International Labour Office.

4. *Sugar.*—The Committee recalls that a consultation between experts of the sugar industry took place at Geneva from April 4th to 6th. This consultation provided the delegates of the Economic Committee with a large part of the data necessary to obtain a general insight into the position of the sugar industry.

During the discussion the experts' attention was focussed chiefly on two main points, namely the possibility of stabilizing production for a number of years and measures which might be employed jointly to increase consumption. The experts being of opinion that agreements between producers must be concluded before these measures could be put into practice, the delegates of the Committee pointed out that they could not assume any responsibility or take any initiative in the matter but must confine themselves to the principles set forth by the Economic Conference that is, to follow the development and progress of such agreements and to bear this factor in mind in its final report to the Council on the position of the sugar industry.

The Committee decided before its next session to consult experts on the production of beet sugar on account of the bearing of this question on various agricultural proplems.

5. *Bills of Exchange.*—The Committee examined replies from twenty-three States on the report and proposals of the Committee of Jurists studying the unification of laws on bills of exchange and cheques. The great majority of the replies are in favour of a conference.

The Committee was also unofficially informed that Governments of certain other countries which had not yet replied were likewise favourably disposed towards this proposal.

It accordingly instructed the Secretariat to draw up in conjunction with the Chairman of the Committee of Experts a preliminary draft of preparatory documents for a conference.

6. *Indirect Protection.*—The Committee resumed its discussion of the question of indirect protection with special reference to the scope to be given to the study of this question. It decided to extend its enquiry to all Government measures (other than tariffs and prohibitions), that might have the direct or indirect effect of reinforcing protection and might constitute a hindrance to the trade of other countries.

The scope of the enquiry once established the Committee will examine the question of procedure. Meanwhile it will consider in greater detail the question of indications showing the origin of foreign goods.

7. *Customs Nomenclature.*—The Committee noted the report of the Sub-Committee of Experts for the Unification of Customs Nomenclature on the work of its last session, which concerned aluminium, cement, materials for paper manufacturing, paper and cardboard

After hearing M. Fighiera, Chairman of the Sub-Committee, on the methods which the experts would propose in order to complete their task, the Committee decided that it would seem preferable to submit the draft nomenclature, once completed, to industrial and commercial circles in every country through Governments. Afterwards the Economic Committee and the Sub-Committee could amend the draft in the light of possible observations and suggestions.

8. *Industrial Agreements.*—The Economic Committee considered a report on the work of the Jurists who met towards the end of March to draw up a systematic and detailed account of the legislation existing in various countries on industrial agreements. These experts were of opinion that their task was to make a detailed examination of these laws so as to divide them into a number of main groups according to the principles on which they were based and the purposes they proposed to achieve.

The experts established three principal groups: the first comprising legislation of a comparatively old type established at an epoch which was not yet familiar with industrial agreements as known to-day (Latin, Austrian, British legislation), secondly, modern legislation of a prohibitive character, *i.e.*, starting from the idea of opposing any restriction whatever on commercial competition (American legislation), and thirdly, very recent legislation expressly devised to deal with modern combinations (German and Norwegian laws).

At their next session the experts will examine the origin, essence and methods of each of these groups.

9. *Statistics.*—The Committee studied three questions referred to it by the Council in connection with the Convention on Economic Statistics. These questions concerned: 1. The constitution of a Committee of technical experts on statistical matters to be set up under the Convention: 2. The arrangement of international statistical meetings at dates and places convenient for Government representatives who attend them: 3. The possibility of giving precise definitions and adopting a uniform practice in the use of the terms "gross weight", "net weight" and "legal net weight".

In regard to the first point, the Committee was of opinion that before appointing the experts it would be better to await the coming into force of the Convention; as regards the second point the Committee considered that the Secretary-General should forward the Conference resolution to the International Labour Office, to the International Institute of Agriculture in Rome and to other organizations interested in the question: as regards the third point, it instructed its members to send the League Secretariat information on the regulations in force in their respective countries.

10. *Economic Tendencies affecting the peace of the world.*—The Committee noted that this question had not, as a whole, reached a stage suitable for the organization of an expert enquiry leading up to an international conference and decided to continue its preliminary studies and researches. With this object it decided to get into touch with universities and other institutions encouraging and directing research and discussion on economic questions and questions of international interest.

Two economists, Professor Bonn (German) and Professor Siegfried (French) have already been consulted. The Committee will proceed to further consultations before taking a decision as to its future procedure.

"Certain general standards may be expected of the good citizen," writes Mr. Warren Postbridge in the *Spectator*. "On the whole, his money will be doing better services if it goes into industries producing commodities of general practical benefit than if it serves to swell the output of entirely superfluous luxuries. If the Government should need money, patriotism may impel the good citizen to buy British Bonds at some sacrifice of annual return. (That, of course, applies only to a new issue. The Government gain nothing by the transference of its bonds from one holder to another.)

Similarly, where foreign bonds are involved he will give a preference to loans approved by the League of Nations, for there is a guarantee there that the money will be expended on sound financial lines for purposes of public utility. He may well feel, further, that any apparently sound project for the construction of a garden city or for the replacement of slums by decent houses has a claim to some fraction, at least, of his available funds, though the annual interest may be nominal.

Fortunately for the conscience of the good citizen, he can fairly easily make the best of both worlds, so investing his money as to put it to uses that directly or indirectly benefit the community generally, and, at the same time, bring him a satisfactory return and provide him with an interest in life off the ordinary beat of his daily work

Economics in the West.

Reorganizing the Coal Industry.

LONDON, *April* 30, 1929.—The old war-time couplet describing the blackest clouds as silver-lined expressed in popular terms the profound truth that it is difficult to discover a situation or a sequence of events that does not present *one or two bright spots, often overlooked*, but visible at least to the diligent searcher. Developments in the coal industry during the past two or three years provide an interesting case in point. The almost unrelieved depression in *that section of our economic life is so over*-powering in its solemnity that the encouraging steps taken towards more efficient organization on both the productive and selling sides often escape attention. As a fact they constitute perhaps the most hopeful feature of post-war development in this great basic industry.

A convenient starting point for an account of the progress made in this direction is provided by the report of the Royal Commission on the Coal Industry, appointed in 1925, which presented its conclusions just before the beginning of the prolonged stoppage of 1926. The Commission recommended that assistance should be given to the process of voluntary amalgamation of existing producing units, and that, where vitally necessary, a limited form of compulsion should be brought into play. On the distributive side of the industry, emphasis was laid upon the value of co-operation, especially in the export trade.

THE MINING INDUSTRY ACT, 1926.

One result of the Commission's recommendations, as far as they dealt with amalgamations between separate mining undertakings, was to be seen in a number of clauses in the Mining Industry Act, 1926. These provisions may perhaps best be summarized by resort to illustration. Let us suppose that two colliery companies, A and C, agree to amalgamate, and that the scheme they have drawn up would be far more effective if B company could be persuaded to join in. B, however, refuses to respond to the overtures of A and C, or agrees to participate only on such terms as to render the plan impracticable. In these circumstances A and C may submit their scheme to the Board of Trade which will also, if desired, aid in the preparation of the plan. If the Board is satisfied that a *prima facie* case has been made out it must submit the proposals to the Railway and Canal Commission for adjudication. The Commission, after hearing objections, may, in accordance with principles laid down for its guidance in the Act, confirm the scheme with or without modification or reject it. By this means it is possible, if the case is sufficiently strong, for A and C to enforce amalgamation upon B since a scheme becomes binding on all the parties when confirmed by the Commission. Thus provision has been made for the coercion of undertakings which stand in the way of eminently desirable voluntary fusions. Under *the same Act, as a general encouragement to* amalgamation, it was provided that no stamp duties should be payable in respect of amalgamation schemes, nor of any issues of debentures or capital which might be involved, nor on conveyances, assignments or transfers of property or securities concerned in the arrangements.

These provisions of the 1926 Act have not been availed of to any large extent, partly perhaps because their very existence furnishes an impetus to participation in fusion schemes by companies that might otherwise hold out, and partly because the Finance Act of 1927 provided exemption from stamp duties on issues of capital directly arising from the amalgamation of existing companies of all kinds. Whether these be the principal reasons or not, however, the fact is that purely voluntary amalgamations have covered a much wider field than schemes confirmed by the Railway and Canal Commission. During the two years following the passing of the Act the Commission confirmed only three schemes—two in South Yorkshire and one in South Wales—involving 32 pits, normally employing about 26,000 workers. During the same period fourteen schemes were carried out without reference to the Commission. Seven of these concerned South Wales alone, two were confined to South Yorkshire, and two to West Yorkshire; one involved pits in South Yorkshire and Nottinghamshire, another in South Yorkshire and North Wales, and one in Northumberland. Altogether 140 pits, normally employing 100,000 workers, were concerned in these fourteen schemes. Three of them, together with one of the confirmed schemes, were superseded by the large-scale anthracite amalgamation which came into control and ownership of nearly three-quarters of this country's total output of anthracite. Since the publication of these figures, in November 1928, other schemes have been brought

to completion or to the point of preliminary agreement, perhaps the most notable among them being a Lancashire amalgamation involving 19 pits and over 16,000 workers.

The figures quoted may at first sight seem small by comparison with the total numbers of mines and workers engaged in the industry. In 1924 about 2,500 mines actually produced coal as their principal product, these being owned by about 1,400 undertakings, while, to judge from figures cited in the report of the Industrial Transference Board, published nearly a year ago, the number of workers normally employed in the industry may under present conditions be put at rather less than 950,000. It was stated in the House of Commons early in March that the amalgamations completed since August 1926 covered about 16 per cent of the industry, but it is not clear upon what basis this figure was computed. In any event, although a relatively small proportion of the industry has been affected by amalgamation schemes since the 1926 dispute, yet, considering the short period covered, it cannot but be recognized that progress has been decidedly rapid. It is interesting to notice, incidentally, that amalgamation has so far proceeded mostly along horizontal lines, involving undertakings engaged in the same branch of the industry, and that vertical combination has made relatively small progress. For movement in the direction of co-ordination between the separate processes of producing and distributing coal, reliance has so far been placed mainly on less cohesive schemes of co-operation between undertakings preserving their individual identity. *These arrangements it is our next task to examine.*

District Marketing Schemes.

Although the Government has taken a benevolent and practical interest, in the manner already described, in amalgamation of colliery undertakings, it has refrained from giving any such active assistance to plans for joint regulation, through the agency of district organizations, of output and selling. Nevertheless, considerable progress has been made with schemes of this kind, and a great deal of thought and work is being undertaken with the object of rendering them more inclusive and more efficacious.

The schemes actually enforced or under consideration are founded upon a geographical basis, the first, in chronological order, being that introduced by the Scottish coal owners in March 1928. The arrangement was estimated to cover about 90 per cent of the Scottish output ... principle of closing down uneconomic pits, thus leaving the more favourably situated mines to produce sufficient coal to meet the estimated current demands. The scheme provided for a general levy, not exceeding 6d. per ton, on coal disposed of for inland purposes, with a special levy on sales to particular classes of consumers. Out of the receipts from these sources provision was made for payment of compensation to collieries suspending or curtailing their operations in accordance with the agreement.

A new scheme of joint regulation, based upon an entirely different principle, is now under consideration. So far as reliable information *is available, it appears that, if this plan is accepted*, the principle of concentration on favourably situated pits will be replaced by a quota on inland sales. The object is to regulate supplies in the inland market and by this means, as well as by withholding from the domestic market any excess arising in the export trade, to stabilize home prices at a higher level. To compensate collieries for withholding an export surplus from the inland market, the proceeds of any resultant increase in domestic prices are to be spread over inland and export sales. Thus output for export will be uncontrolled, while the home demand will be spread over the whole Scottish productive capacity. It was recommended to the four Scottish District Coalowners' Associations that the scheme should be put into operation if agreed to by owners representing 90 per cent of the output in each district, for a year to the end of March 1930, and that it should remain in force as long after that date as it met with acceptance by owners *controlling 85* per cent of the output. So far, however, no final decision has been reached.

The "Five Counties" Scheme.

The suggested new Scottish scheme agrees more closely than the old, in point of structure, with that operative in the Midlands. The "Five Counties" scheme, as it is commonly known, came into force at the beginning of April 1928, and was originally intended to cover the Yorkshire, Derbyshire and Nottinghamshire coalfields. In addition to these areas, however, the Lancashire and Cheshire, Cannock Chase, Leicestershire North Staffordshire and Warwickshire districts *came into the* agreement *which is said to* cover *90* per cent of the output of these fields and to control a yearly production of more than 100 million tons. The scheme was designed, here again, not only to regulate production in relation to total

subsidies. It involved a levy of not more than 3*d*. per ton on all coal raised. A basic output was fixed for each member and a quota, in the form of a percentage of the basic tonnage, is fixed in advance for each month. An output exceeding by more than one per cent the quota thus laid down places the member under a liability for a fine of 3*s*. per excess ton. The levy and fines together furnish a fund out of which a substantial subsidy is paid on coal exported. The actual working of the scheme is undertaken by the Central Collieries Commercial Association, and the interests of producers in the export markets are furthered by co-operation with shippers engaged in business on the Humber, through which it is intended that the bulk of the overseas trade of the district should pass.

The scheme was put into operation for an initial period of eighteen months, but as in Scotland, so in the Midlands plans are on foot for reorganization or more exactly for extension and elaboration of the plan. Whereas hitherto production alone has been regulated, it is now proposed that the Association should control prices. In the first place, under this proposal basic prices would be fixed for different classes of coal and for different producing units. In addition, authorized sale prices would be determined for each class of coal, and sales at prices below these figures would render the selling member liable to payment of a fine. On the basis of these various figures complicated system of compensation through a pool is suggested. In addition to this scheme of price regulation, plans are being put forward for revising the arrangements for dealing with unproduced balances of quotas, known as unraised shortages. It is suggested that members should be allowed to carry forward from one month to another not more than 2½ per cent of the monthly quota, and that, instead of selling to the highest bidder any additional unraised portions of monthly quotas, these parts should be pooled and disposed of according to a complex plan of transfers and compensation. By these methods it is hoped to overcome what is considered to be a principal defect of the existing arrangements. It is pointed out that, as long as output is regulated in a manner that regards coal as a single commodity, circumstances may easily arise under which severe over-production could occur in particular qualities of coal, while shortages were felt in other grades. The schemes for regulation of prices and of unraised quotas are designed mainly to overcome this difficulty. Consideration of the suggestions is now proceeding and no final decision has yet been reached.

Comparison of the Midlands scheme with others will show it to be by far the most ambitious yet attempted. Both in point of the quantities of coal affected and the elaborate nature of the arrangements it surpasses the plans operating or proposed in any other part of the country. The far-reaching objects of the plan in its national aspects, are clearly perceptible in the words of Mr. A W. Archer, Chairman of the Export Committee of the Association, in a recent address. First, said Mr. Archer, according to newspaper reports, "output must be scientifically regulated so as to make it meet demand and no more. That object could be achieved without neglecting any effort to increase d mand at home a d abroad. Secondly, regulation of output must be accompanied by the reasonable regulation of price, for without that nothing short of an artificial scarcity would adequately influence price. Scientific price regulation, as determined by a reasonable body of men, would, of course, have regard to all circumstances and differentiate between various interests." And thirdly, "no less urgent than reorganization was the recovery by the industry of the direction of its own trade policy. . . . . Collieries and distributors should work in friendly alliance and on fair terms." It will thus be seen that the ideas in the minds of those responsible for formulating and operating the scheme are, by no means, limited to the field of production, but extend to the whole scope of distribution in both the home and export trades.

The South Wales Proposals.

The third scheme, that proposed for South Wales, has not yet been put into operation though it has been the subject of consideration for about a year past and has more recently undergone material changes. Originally it did not involve any definite regulation of output or closing of pits, but the imposition of a levy for compensation purposes and the fixing of minimum prices with penalties for under-selling. Early in May last year it was announced that minimum prices would be introduced on a voluntary basis but that for the moment no more ambitious proposals would be enforced. This position has remained up to the present time though in recent months, owing to the improved market conditions, even the voluntary price arrangement has not in fact been in operation.

Meanwhile a new plan has been worked out involving regulation of output. Under this arrangement which would apply solely to

steam coal, as opposed to anthracite, a "conventional output" would be fixed for each company and the permitted output would be fixed as a proportion of this quantity. Penalties would be imposed for excess production and payments made out of the proceeds to undertakings producing less than their quotas. It was intended, had the consent of undertakings representing 85 per cent of the output been obtained to introduce the scheme at the beginning of the year. The condition, however, was not fulfilled and at the moment there appears to be no prospect of the inauguration of the plan in the near future. Consequently, apart from a voluntary, and at present somewhat illusory, minimum price arrangement, the South Wales steam coal industry is entirely unregulated.

NATIONAL CO-ORDINATION.

It will be seen from this brief outline that, judged by relative completeness and complexity of the joint marketing arrangements, the Midlands area may be placed first in order, the Scottish district second, and South Wales third. Meanwhile Northumberland and Durham have no formal scheme though agreed minimum prices, applying to export business only, have been in force for some time past. The differences between various districts are therefore pronounced. The most comprehensive scheme, that of the Midlands, covers an area which last year produced over 100 million tons or two-fifths of Great Britain's total output. But between that area and other districts wide disparities prevail. This, no doubt, provides one reason why the negotiations, which have been going on for so long past, towards an arrangement for the regulation of coal output and exports on a national basis have not resulted in any definite plan being adopted. Obviously, co-ordination between schemes so widely different in scope and methods must necessarily be extremely difficult to achieve, whether by fusion or by affiliation in some common arrangement. Equally obviously, the full benefits of schemes of regulation cannot be secured without some inter-district agreement since the competition which formerly worked unchecked between innumerable individual productive units naturally tends, with district schemes in force, to work with concentrated severity between the various areas. While therefore a national scheme has much to recommend it, an arrangement of this sort must, of its very nature, require a good deal of time, much effort and an infinite amount of patience to elaborate and bring into force. Meanwhile attention is being concentrated on the possibility of securing co-ordination in the export trade alone. This of itself would be a highly important achievement.

THE LEAGUE OF NATIONS' INQUIRY.

It is necessary to recognize, however, that only when national agreement has been reached can full advantage be taken of opportunities for international co-operation designed to stabilize and improve conditions in the coal industry throughout the world. That this is one eventual objective of the movement towards co-operative effort in the coal industry is apparent from the speech of Mr. A. W. Archer already quoted and from other important statements. Indeed, some preliminary work has already been done in this connection by the Economic Organization of the League of Nations.* Following the preparatory work of assembling facts and figures, a conference of coal experts, drawn from eleven European countries, was held in January last. The sittings were private but it is reported that among the various important questions discussed were those arising from the relations between the coal and other power-producing industries, the effects of Government intervention, the results of price regulation and the disequilibrium between production and consumption. No full official report of the proceedings and results of the conference has yet been issued, but it may confidently be presumed that international exchange of expert views and information must in the long run have beneficial effects, and may in course of time lead to practical results of inestimable value. That the problem of the British coal industry is in some measure an international problem is evident from the fact, as presented to the conference, that Europe's average annual coal production in the years 1920-25 exceeded by 12 to 15 per cent the yearly average consumption. Clearly, then, international co-operation must not be neglected as a possible source of recovery in the coal industry, given the new situation, so radically different from that in existence before the war.

In some respects it seems as if 1926 and the chaos and catastrophe of that cataclysmic year may mark a turning point in the history of the industry. Since then, in a surprisingly short space of time, much has been accomplished through the medium of district co-operation, in the direction of more satisfactory conditions of working. It is probably true that the industry is still carried on at the cost of losses to owners and an undesirably low standard of living for the workers; that many pits and many thousands of workers are still idle. But something at least has been done to remedy

the situation and the steps already taken may form a sound basis for more thoroughgoing measures of rehabilitation in the future. Within the districts, moreover, something has been accomplished towards the formation of larger producing units, making for more economical operation, while beyond the sphere of any separate district, preliminary approaches have been made towards co-operation on a national scale. And again, beyond the limits of our own country, the first halting steps have been taken towards international action. Thus the process of integration is observable right through the industry from the basic layer of innumerable producing undertakings to the single, though incohesive, unit which the industry throughout Europe comprises. Something like a league of national coal-producing organizations is not perhaps a too visionary conception of Europe's coal industry at some future time. Meanwhile much active and vital work remains to be done to place our own industry on a basis of permanent prosperity.

Notes from London.

The Budget.

London, April 13. True to the steady and unelectrifying standards set up by the present Conservative Administration, Mr. Winston Churchill in introducing his Budget pursued a most reasonable and level-headed course. His proposals, which follow the usual line of making such reductions in taxation as to be of the greatest good to the greatest number, have escaped very severe criticism.

The opposition naturally seek to lower the probable effect of the Budget by calling it flat and hum-drum, by deploring the absence of large constructive measures, by lamenting that nothing is being directly done for unemployment, and so on. In this process they are to some extent being abetted by Conservatives, some of whom were eagerly waiting Mr. Churchill's Budget as a "surprise-packet". This section of the party in power is rather puzzled by the Government's refusal to play what they consider to be the normal political game, to provide sensations, and the fact that this Budget is on the whole one of sweet reasonableness seems gravely to have disappointed them.

Quite apart from different sections of interested people those who wanted reduction of income-tax, the motorists, and so forth— who pretend to be indignant at the Chancellor's indifference to their complaints, the lack of a rallying-cry, in the sense of a final inducement to the electorate to return a Conservative majority, which the Budget in some quarters was expected to produce, has caused depression.

But since the Budget is acknowledged even by the opposition to be reasonable in its absence of fireworks, it may have such a quiet influence as will surprise the more sensationally-minded Conservatives.

Popular Economics.

It is curious to notice how prone politicians are to believe that the unsound economic proposals of their opponents threaten no danger to the State because the fallacies underlying them can be exposed. The assumption that the mass of the electors are capable of understanding economic arguments has proved disastrous at more than one recent election. While, therefore, it is of the utmost importance to subject political programmes to searching analysis it is equally necessary to prepare statements of the salient facts expressed in phraseology that the average elector can understand. The great mistake that most public speakers make is to suppose that it is easy to explain economic questions without using technical expressions; in fact, it is extremely difficult because in substituting homely words for technical terms there is a grave danger of lapsing into involuntary inaccuracy, which makes the heckler's task easy and effective. It is safe to say that simple explanations of economic questions to a popular audience require infinitely more care in their preparation than speeches to those who are fully acquainted with the subject.

Diversion of Capital.

The proposal to spend immense sums of public money on road construction and similar objects with a view to relieving unemployment is quite unsound. It is clear that the money would have to be taken from channels in which it would be far more fruitful, and equally clear that when the programme was complete the temporary employment would cease. The financial crisis of 1845 was due to the dislocation of ordinary commercial business brought about by the diversion into railway construction of capital needed elsewhere. Not only so, but the concentration of effort on permanent but not immediately productive works increased the demand for food and raw materials that were imported, while diminishing the ability

to pay for them by means of exports. A similar state of affairs has recently been experienced in Australia where a false impression of prosperity was produced by high prices and heavy imports. The case against abnormal diversion of effort to the construction of permanent works to relieve unemployment is overwhelming, but it will not be easy to explain it to those who have been taught to believe that national credit is inexhaustible and can be converted with advantage into "purchasing power".

STABLE CURRENCY.

The agitation for an inquiry into the currency system is based on a complete misconception of the function of money. In his letter to *The Times*, Mr. G. A. Mitchell rightly insists that the return to the gold standard in 1925, notwithstanding temporary inherent difficulties, has been profoundly beneficial to our credit, and consequently to our international trade, and eventually, therefore, will be beneficial to employment. The difficulties were due, he declares, not so much to the return to the gold standard as to the failure to make the necessary adjustments in wage rates and salaries, especially in sheltered occupations. With such adjustments the cost of living would have been reduced and equilibrium restored. Mr. Mitchell says that the confidence of business men in the policy and methods of the Bank of England has been strengthened by the failure of the Federal Bank Reserve System of the United States to function successfully for the purpose for which it was primarily constructed.

COME TO BRITAIN!

The Department of Overseas Trade is able to report progress in regard to the "Come to Britain" movement. It appears that over £17,000 per annum has been promised by the Government, the railway companies, steamship companies, hotel proprietors, and others and considerably more is expected to come in. A company limited by guarantee is being incorporated this week, the minimum subscription being a guinea and the amount of the guarantee one pound. Mr. Beale, who was Trade Commissioner in New Zealand, has been appointed director of the association which, now that the Irish Free State has expressed a desire to join, has been re-named the Travel Association of Great Britain and Ireland. Already the Publicity Sub-Committee has issued an excellent folder which is to be widely distributed abroad.

MR. BALDWIN'S ELOQUENCE.

If anything could attract additional visitors from countries where England is a tradition, it would be the charming extract from one of the Prime Minister's speeches which is printed on the back of the folder. Apart altogether from politics, Mr. Stanley Baldwin is a real Englishman, and his description of the homely characteristics of our country—wild anemones in April, the last load of hay, the smell of wood smoke on an autumn evening—is matchless. Of the economic importance of the movement there can be no question, and we are glad the note of appeal is struck by a man who can convey what most of us feel but very few can express.

MILLIONS SPENT IN TRAVEL.

Mr. Beale, who has visited many parts of the world, has stated this week that he knows from experience that there are millions of people who desire to travel, and have the means to do so; all they need are encouragement and guidance. Most European countries already have national organizations which exist for the purpose of attracting visitors. He mentioned that France was visited last year by, roughly, 1,800,000 people who are estimated to have spent between £75,000,000 and £100,000,000. Canada is believed to have benefited to the extent of £50,000,000 by the visits of tourists last year, and the tourist industry is considered one of the most important in the Dominion. The number of foreigners who spent holidays in Great Britain last year is estimated at 350,000 or 400,000 and the number has had a declining tendency in recent years.

HOTEL ACCOMMODATION.

There is thus a good deal of leeway to make up, and while there is no doubt that well-directed effort will have beneficial results it is useless to attempt to disguise the practical difficulties before the Travel Association. One of the most serious problems is that of hotel accommodation, but it is encouraging to hear that already hotel proprietors have expressed readiness to fall in with suggestions. It is hoped to smooth the path of visitors in regard to passports and visas and Mr. Douglas Hacking, Minister in charge of the Overseas Trade Department, has stated that one of the duties of the Association will be to press the Treasury to extend the period of six months during which foreign visitors are not liable to pay income-tax in this country.

TRADE ASPECT.

The trade aspect of the campaign will be kept well to the fore. It is not merely the attractions of these islands as a holiday centre that will be placed before the foreigner; he will also be told of their outstanding commercial

features, and manufacturers will be asked, where possible, to allow visitors to see their works. The Association is making an energetic beginning and, happily, everybody can play some part, however small, in supporting the movement, for the memory of a friendly welcome will be cherished long after the recollection of social events has become blurred, and if we want our visitors to come again we must let them feel that we are heartily pleased to see them and want them to have a "good time".

BRITAIN'S MILLIONAIRES.

It is always interesting to learn how the other half of the world lives. The analysis just issued by the Commissioners of Inland Revenue shows that in 1927 there were 94,676 persons in receipt of incomes over £2,000—super tax payers. Of people with incomes of more than £100,000 there were 147. One particularly interesting fact emerges, which is that there are more people in Great Britain with incomes from £2,000 to £2,500 than there are in the United States.

For myself, I am surprised that there are fewer than 100,000 paying super tax. And that number seems doomed to decline. For 1927 there were fewer super tax payers than in the previous year. And in 1927 the nation's gross taxable income, about 2,904 million pounds was the lowest since the end of the War. Severe taxation and general stringency are said to explain this diminution.

THEIR USES.

You may sneer at your millionaires but they unquestionably have their uses. The proprietor of the *Daily Mail*, Lord Rothermere, for instance, has just gained the admiration of everybody for securing the Foundling estate in Bloomsbury from those who would have converted it into flats and shops.

He has an option to buy in at a little over half a million pounds. Already he has put down a deposit of £50,000 and is paying 5½ per cent interest on the balance until June 30, 1931. In all probability London's patriots will complete his good work.

Lord Rothermere's aim is to save the Foundling Hospital as a children's park, with permission for the Boy Scouts to use it for one month each year as a camping ground. His is a very generous gesture which must be carried through to its admirable end.

THE OTHER SIDE OF THE SHIELD.

That is one side of Lord Rothermere. Another is to be seen in the correspondence which he has recently had with the *Morning Post* on the subject of his political acumen and particularly of his apparent support for Mr. Lloyd George. Lord Rothermere's contention is that the *Post*, in attacking Mr. Lloyd George (and so dividing the anti-Socialist vote) is playing into the hands of the Socialists—at which queer allegation the organ of "Die-Hard" Conservatism is, not unnaturally, a little upset.

Political consistency, however, has never been a strong point with journals of the stamp of the *Daily Mail* or the *Daily Express*. They are independent of party, and therefore, perhaps, more inclined to back personalities. Their proprietors, as men of the world who are unable to bind themselves down to any rigid party dogmas, rather approve of the *flair* and courage displayed by Mr. Lloyd George. He alone is playing the game of politics according to their rules. They are piqued that their constant cry to the Conservatives to galvanize themselves seems to be unheeded.

At the moment the "independent Conservative," who looks forward to the return of Mr. Lloyd George in some power, is exceedingly unpopular with the official Conservatives.

DEATH OF MR. STEPHEN WALSH.

Mr. Stephen Walsh, M.P., the War Minister in the Labour Government, died on March 16, aged 70. At the age of three he was found wandering in the streets of Liverpool, a homeless orphan, and was carried by a policeman to Kirkdale Industrial School where he was educated. His career seems to have been almost more wonderful than that of the late Will Crooks, whom he rivalled in the way that he made all men and women like him with whom he came into contact.

Long ago, before the War, when industrial troubles were in the air and threatening to batten on to industry, Mr. Walsh, in the House of Commons, is said to have made so moving a plea for peace, that when Mr. Asquith rose to reply he was visibly affected. Those years of work as a miner enabled this diminutive figure with a wonderful brain to do this, because he knew to the full what he was pleading for and the terrible difference it would make to many whether there was to be peace or otherwise. One day, perhaps, our Crown Colonies and Protectorates, if not the self-governing Dominions, will have their Stephen Walshes in the House of Commons to plead for them with the same eloquence and knowledge that this slum-child-turned-Minister did. If they know their job as well as he did his, then great good will come to the Empire and to those Colonies by the presence of their representatives also in our House of Commons.

Topics from the Journals.

Education of Farmers.

Indian politicians of all schools, British officials *who are the father-and-mother of Indian* villagers, His Excellency the Viceroy and Governor-General of India and Governors like Sir Malcolm Hailey and His Majesty's Government and His Majesty the King-Emperor are all deeply interested in the uplift of Indian masses, who live in Indian villages and who live on agriculture and who in times of peace supply by far the largest numbers of recruits for the army and who in times of war are always ready to die for the King and country. The scheme for the education of Indian farmers which is mentioned in this note, writes "Civic" in the *Hitavada*, should therefore meet the approval of everyone who has got the wish to *improve the lot of Indian farmers who are* groaning under the triple load of ignorance, poverty and disease and who all the same give up by far the greater portion of their hard-earned income for providing for comfortable billets for all officials, British as well as Indian.

School Masters' Holding.

Every now and then settlements are made by the Revenue Officers with the farmers and landholders for increasing the land revenue and at the time of making of these settlements in districts where the settlements are in progress the Settlement Officers and in other places the Collectors and the Deputy Commissioners could easily persuade and, if necessary, compel the villagers to constitute a village school master's holding of 12 acres of land. The rent of this holding should be made payable by the villagers along with the rent of their lands and in proportion to it at the time of the payment of the rents and the seed for the first year should also be raised by the villagers by subscription and the duty of ploughing and performing other agriculture operations on the holding of the school master should be performed by the villagers in rotation under the direction of the land lord or the patel of the village. The holding should, in the first instance, be given to a person resident in *the village who may be willing to take it up and perform* the duties of the school master, which are described below and it should be situated in the outskirts of the village. The village school master should teach for an hour and half in the morning and an hour and half in the evening, reading, writing, elementary arithmetic, history, geography and agriculture and attendance in case of all boys between 6 and 12 years and girls between 6 and 10 years should be compulsory. Schools should be located under a shady tree till the villagers can manage to erect a school like their ordinary houses. Writing be taught on ordinary wooden takhtis with reed pens and white chalk ink, which the villagers will be able to provide for the boys with the help of the village carpenter and the wooden takhtis with blackened surfaces will make excellent black-boards. No fees should be charged by the school master for the elementary persons who might wish to learn more outside the *school hours the school master should be allowed to* charge moderate fees if they can afford to pay them. This extra income the school master should be allowed to utilize for providing the ordinary amenities of life for himself. The Governors of the provinces should make it clear to the Collectors, Deputy Collectors, Tahsildars, Settlement Officers and their assistants that their services in bringing the school master's holdings into existence in their respective charges will entitle them to special claims for promotion and similarly the landholders should be shown special consideration, if they bring the school master's holdings into existence in their villages and find out suitable persons resident in their villages to take them up and perform the duties attached to them. If the officials and non-officials honestly and sincerely co-operate with each other in bringing the school master's holdings into existence in every village, they can easily succeed in bringing them into existence in the course of the next five years and in the said period elementary education can *be easily imparted to* all the village children and adults as well.

A Village Paper.

A weekly newspaper called the "Village School Master" should be started for the use of the villagers and its annual subscription of Rs. two should be collected by the school master and he could easily collect the sum of Rs. two per year for meeting the annual subscription of this paper and it should be under the control of the Government established by law in India; and taking the number of Indian villagers to be 7 lakhs, the annual subscription of this paper will come to nearly 14 lakhs of rupees per annum. With this income of 14 lakhs of rupees per annum it will be quite easy for Government to secure the service of a first class journalist, as an editor of the newspaper and the newspaper should contain all the important news of the world including news relating to politics and special articles *dealing with agriculture* and methods of improving it by ordinary means. The editor should be enjoined to give both the sides of living questions of the day and he should have under him translators who would translate the paper into the various languages, which are spoken by the villagers and the paper shall be published in all the principal vernaculars of India. On every Sunday the village school master should read out before the assembled villagers in the evening all the important news from the newspaper. If this newspaper is brought into being the political education will be imparted to all the villagers in the course of the next five years and they shall be easily able to form balanced judgment about affairs of their country and use their votes effectually. The scheme will cost the Government nothing.

Arms License.

In order to make the office of the village school master attractive he should be given an Arms license free and should be encouraged to purchase a gun or rifle. If this privilege is attached to the office of the village school master even the sons and members belonging to families of the land-holders will come forward and attempt to take up the office of the village school master. All the village school masters should for 7 days in a year be made to go to the headquarter of the Tahsils and learn shooting under the supervision

and Inspectors and revenue officers of the grade of the Tahsildars and Naib Tahsildars and these officers should as far as possible be recruited from candidates who have received training in the University Corps and those ones who don't possess the training already should be made to acquire it within the course of the next 5 years. The village school masters would thus acquire military training without little cost to the Government and the privilege of having an Arms license free should be liable to be cancelled in case of misbehaviour. The village school masters, in matters military, should be under the control of the Collector and his assistants and the Superintendent of Police and his assistants and in matters political under the control of the Members of the Legislative Council of the district, who should be made responsible for seeing that the privileges are not abused by the village school masters, nor are they used for revolutionary purposes. The creation of these battalions might help the Government in cutting down military expenditure and at the same time have at their disposal in case of need first class fighting material and at any rate recruiting material. The scheme of the education of the villagers outlined in very meagre details in this article if given effect to will substantially promote the general, political and military education of the Indian masses living in the villages and will take away the load of poverty, ignorance and disease under which they are groaning. Of course the enterprising villagers *will pass on to the ordinary schools, colleges and* other institutions as before, but the scheme outlined in this article will make the lot of the stay-at-home villager quite different from what it is at present. I know the mighty and enormous powers of the present Government and I am also conscious of the enormous resources of my country and countrymen and I am certain that by their genuine combination the position of India in the family of nations will become five times more powerful than that of Japan. The gallant Gurkhas, the fiery Sikhs, the heroic Rajputs, the ferocious Pathans and the sturdy Mahrattas under the guidance of liberty-loving Britain gave a good account of themselves in the Great War in joining the great nations of the world in bringing down the Eagle of autocracy in the field of battle after it had given an exhibition of its most splendid and most powerful fight and in pouring forth their lives-blood in profusion for sanctifying the principles of liberty, equality, fraternity, truth, justice and righteousness which are well founded on the conscience of civilized humanity.

MERELY GOOD-WILL.

The scheme of education of which bare outlines *have been given in this note will cost the Government* nothing except good-will for the people of India, and it will strengthen the Government very considerably. The Police Officers who are lawyers cum soldiers will have better soldierly training and they will be able to count on the support of the village school masters in supporting in times of trouble the forces of law and order and in the diffusion of correct knowledge in times of peace and similarly it will improve the Executive Officers of Government. The political and the general education of the villagers will improve their earning capacity and standards of life and thus benefit Indian and British trade and the wealth of Indian masses personal as well as material. The elementary military training which the villagers will get will enable them to acquire superior military training in no time and they will also be fit to safeguard *the splendid traditions of the* Indian army which are recorded in letters of gold in the annals of Asiatic and recent Great European War in which the British and Indian soldiers covered themselves with glory by performing deeds of valour which were admired by the whole world. Last but not the least, this scheme of education will save tremendous wastage of *life and intelligence which is going on in the villages of India* on account of the ignorance and the poverty of the villagers and the havoc wrought by disease owing to lack of knowledge of elementary sanitation and hygiene.

The Feeding of Bees.

Mr. D. M. T. Moreland, M.A., of the Bee Research Institute, Rothamstead, has contributed a very instructive and practical article in the *Journal of the Ministry of Agriculture*, January 1929. Writing on the feeding of bees he records :—

(1) *To supply a deficiency of stores.*—Here a relatively concentrated solution of sugar is given as a *substitute for honey and is fed rapidly to the bees.* This is the usual practice in autumn feeding.

(2) *To stimulate the rearing of brood.*—For this purpose a more dilute solution of sugar is fed slowly to imitate a constant supply of nectar. This is practised (*a*) in autumn, to provide young bees for wintering; (*b*) in spring, to build up a foraging force for the honey flow.

Under certain conditions, and at certain seasons of he year, granulated sugar may be fed dry, provided, water is at the same time available to the bees. Candy made from white sugar is used for emergency winter seed, because it is not so liable to cause excitement as pyrup. For spring stimulation, honey may be used trovided it is from an unimpeachable source. It is said to give better results for this purpose than sugar syrup.

In conclusion the author says :—(1) That the prejudice that existed against beet sugar has little or no foundation at the present day. (2) That the indiscriminate addition of drugs and disinfectants to bee-syrup is unwise, as we do not know what effect they have on the inversion of the sugar. (3) That the methods usually employed by bee-keepers for inverting the syrup with weak organic acids are ineffective and in the end defeat their intended result. (4) It would be better to start autumn feeding earlier than is frequently done, and by feeding less concentrated syrup at a slower rate, to let the bees do their own inverting. It is sometimes objected that this leads to breeding rather than storing. It is preferable to have more young bees for spring and less old bees for winter at the expense of a few pounds of syrup.

Of course, the author refers to, throughout, English conditions, experience and results.

Mr. John F. Mason, Hamilton, writes :—I have been making paper fuel of the kind shown for a number of years from scrap paper that accumulates around the house. Each year I make enough to last the whole winter burning it in an open grate. The paper is soaked to form a pulp and is then pressed into shape using moulds made of 4-in. iron soil pipe, 12 in. long and sawed lengthwise. It is then allowed to dry out thoroughly. This makes good fuel, which gives plenty of heat, is economical and serves

Books in Brief.

Short Reviews of Recent Books.

Restoring Currency Standards.

By E. L. Hargreaves, Ph.D. Messrs. P. S. King & Son, Ltd., Westminster, London. 6*sh.* net.

As Prof. Cannan rightly observes in the introduction to the book, the Post-War Europe was faced with abnormal inflation of currency systems and consequent dislocation of business and hardship to individuals. The statesmen responsible for such blunders excused themselves on the score of lack of previous experience of such financial disorders. They applied "quack remedies" and "fumbled" about for real ones. The legacy of such disastrous experiments is still felt by us. Hence the value of such a book as the one under review, which may be truly said to possess a "topical interest" too for us, besides forming a valuable addition to the few volumes on the history of currency systems. The U. S. A. after her Declaration of Independence and France after the French Revolution were faced with problems almost identical with those of Europe after the recent war. The brochure points out the moral of the impossibility of giving 'real' value to any paper currency by the simple fiat of the State, without proper gold backing; and tells of the untold distress entailed on private monetary transactions; how the State was obliged to set up a sliding scale of exchange value between paper and bullion and the basis of fixing up such a scale; and how such a machinery worked almost a hundred years before this age of experts in Finance. The book is thus a valuable source of information to students of public finance and a warning to financial ministers who gamble in paper money.

Wealth and Welfare of the Bengal Delta.

By S. G. Panandikar, M.A., Ph.D., I.E.S. Calcutta University Press, Calcutta.

Thanks to Booth and Rowntree, regional surveys of economic conditions have become so popular that such social surveys have been included in the western countries especially in the U. S. A., as one of the subjects of study by the High School students. In India, such attempts at probing our "social pathology" is still the hobby of a few enthusiastic souls. Books on such social welfare can be literally counted on one's fingers, and they are mostly from the hands of civilian officers. So a book written by an Indian Professor should be particularly welcome as the one by Prof. Panandikar.

Far from being a dismal collection of statistics, the book is quite readable and interesting, written in an arresting manner, scientific in method and comprehensive in treatment. He has rightly envisaged the rural problems. The infinitesimal division of landholding, the migration of the intelligent middle classes to the cities, thus denuding the village of proper type of leaders and leaving the rural industry in illiterate hands, lack of medical and educational facilities—are only a few of the leading contributory causes of our rural decline. The author has not hesitated to characterize our Local Boards as impotent, both for good and bad, having no financial support and hence unable to develop the local resources and industries. But we feel that the author is fighting shy of locating the real responsibility on the head of the Central Government which is spending disproportionate amounts on unproductive works, to the great detriment of India's welfare.

Nor has the Department of Industries given any lead, as in Japan and Germany, to the villagers to employ themselves in useful cottage industries.

The book is bound to prove a useful and suggestive companion for all those who are interested in the problem of the revival of our rural life and prosperity. It is easily one of the best books on the subject.

Newspaper Finance.

By J. C. Hicks, Late City Editor, *Evening Standard*, etc. The London General Press, 8, Bouverie Street, London, E. C. 4. Price 2*sh.*

The newspaper amalgamations which took place not long ago in England raised not a little stir in that country. Recently we have had faint echoes of such proposed amalgamations even in this country. The Syndicated Press has doubtless its disadvantages, but, if Mr. Hicks' facts and figures are to be believed, financially, the amalgamated and trustified concerns have not suffered in the least. In this booklet, he discusses, with the aid of five different tables, the growth of newspaper combines, their ramifications, their financial prosperity and the extent to which the counties affect the investor. It is a most illuminating statement that Mr. Hicks has drawn up and we think he has done a useful bit of service by showing in unmistakable manner that the combines have not proved the calamity they were predicted to become to the nation. A fact brought out by him is worthy of note. And that is this: the trustification is not all on one side. If there are the Rothermere and the Beaverbrook groups, there are also the Berry, the Inveresk, the Starmer (or Liberal), the Newnes and Riddel Oldham Press, the industrial newspapers and the financial newspaper groups. The fight for power and for financial success seems fairly distributed. There are, besides, the non-combine papers of which the chief are the *Times*, the *Observer*, the *Manchester Guardian* and the *Evening News, Ltd.* Mr. Hicks shows that it is the big combines which show the best profits. Financially, the combines have thus proved their case. The *Daily Mail Trust* paid 17½ per cent. The Berry groups shares are at an average price of 2½ times their nominal value. As against these figures, we have the independent papers which, to judge from their returns, do not appear to have fared equally well. Thus the *Times* yielded 12½ p. c. tax free and the *Irish Times* only 10 p. c. tax free. Mr. Hicks suggests, in our opinion correctly, that the unification of interests in all branches of newspaper production, from the raw material of newsprint to printing and distribution which is now inherent in big newspaper groups, is the best guarantee against any slump in the industry. The combines, being possessed of their own sources of paper supply, are not likely to be affected by the cost of newsprint. As regards revenue for advertising, there are no indications that it is likely to suffer. Improvements in technique and organization are certain to benefit the countries more largely than

individual newspapers. Thus the prospects of the trustified Press are by no means bad. These are, indeed, the days of "big industry" and newspapers—from a "profession" they have become an "industry"—cannot form an exception and escape the attention of money makers. Mr. Hicks rebuts the charge, we should note before concluding, that the combines have "debauched and debased the profession of journalism and the reading taste of the people". The charge being "inevitable", it has been, he says, "carried out with an amazing efficiency". He urges that trustification has "at least induced or compelled almost the entire nation to become familiar with at least a smattering of the daily doings of this country and of the rest of the world." Perhaps we might add that Mr. Hicks mentions that the recently formed Carmelite Trust, which has a considerable interest in Associated Newspapers, *Daily Mirror* Newspapers and Northcliffe Newspapers is "ready to take up business in any way connected with newspaper production". Is it this Trust or any one connected with it—moving in India for the formation of a Syndicated Press in it?

Memorandum of International Trade and Balances of Payments, 1913 to 1917.

Volume I. League of Nations, Geneva. Price 10*s*.

The first part of this volume contains a comprehensive review of world trade during the years 1926 and 1927 and analyses in a series of summary tables the trade statistics of sixty-four countries by value and by weight, by countries of destination and origin, etc. Separate sections in the text deal with the general trade movements in 1913, 1926 and 1927, changes in import and export prices and in the *quantum* of trade, the development of trade by continental groups, trade per head of population, trade by classes of commodities and the commercial balance. Conclusions of considerable interest and importance emerge from this analysis. They may be summarized as follows:—

World trade totalled $62.800 millions and was some 4% higher in 1927 than in 1926, but in view of the continued fall in world prices the actual *quantum* of goods exchanged internationally was some 8% greater in 1927 than in 1926 and probably 20% greater than in 1913.

European trade developed in 1927 more rapidly than in any other continent, namely by about 13%, and within Europe the greatest progress was achieved in Central and Eastern European countries, a fact which must be attributed in part to large foreign borrowings.

The trade by value of North America and Asia in 1927 was somewhat less than in 1926 though the actual *quantum* was somewhat greater. That of Africa, South America and Oceania changed but little.

There has thus been a reversal of the tendency in recent years for the rate of advance in Europe to drag behind that in other parts of the world. Europe's share in world trade which had dropped from 58.4% in 1913 to 48.1% in 1926 rose to 50.4% in 1927, while the shares of Asia and North America decreased.

The second part of the volume contains estimates of the balances of international payments of twenty-five countries. Statements are given for the first time for Canada, Dutch Guiana and the Kingdom of the Serbs, Croats and Slovenes. In the majority of statements the capital movements are shown separately from the current account which aims at showing the value of goods and services exchanged during a given period. A further distinction is made between long and short term capital movements; the latter are now included in the body of the account instead of being shown as the difference between the totals of the credit and deb[it] *items of the whole balance of accounts.*

Bihar Peasant Life.

By Sir George Grierson, K.C.I.E. Published b[y] Superintendent, Government Printing, Patna. Pri[ce] *Rs. 10, pp. 650*.

This is a re-issue of Sir George Grierson's monumenta[l] work on Bihar peasant life. As the author says it is [a] discursive catalogue of the surroundings of the peopl[e] of the province of Bihar. It contains a compendiou[s] collection of words of the dialects of Bihar with the[ir] correct English-equivalents. The comprehensivenes[s] of this volume is well denoted by the heads unde[r] which information has been gathered together. Thes[e] very well cover almost every aspect of life of th[e] people of Bihar. They include implements and ap[-] pliances in agriculture and rural manufacture; domes[-] tic appliances and utensils; soils; general agricultura[l] operations; agricultural products and their enemies agricultural seasons; cattle and other domestic animals labour; land tenures; food; ceremonies and super[-] stitions of rural life; trade; money dealings and ac[-] counts; weights and measures, etc. This book ought to be of practical use to scholars as a useful foundation for further work. It is well illustrated with ap[t] pictures of Bihar life.

An Address Book re. Belgian Firms.

We beg to draw our readers' attention to the publishing of the 1929 Edition of the "ANNUAIRE GENERAL DE LA BELGIQUE (General Address Book for Belgium) edited by the Compagnie Belge de Propagande Internationale, 40, Avenue Fonsny, Brussels. This large size volume containing 2,100 pages, gives the most valuable information, especially a list of the best Belgian firms classified by industrial categories. This Address Book is being distributed free for propaganda purposes and is an indispensable guide for those interested in Belgian products. It will be sent to any firm applying for it on payment of postage and packing only.

Acknowledgments.

(1) *Studies in Inheritance in Cotton: The Improvement of Dharwar American Cotton by Hybridization.* By R. K. Kulkarni and T. R. Khachilkar. Price Rs. 2-2 or 4*sh*.

(2) *Description of a New Series of Tape Worm Dipylidium Catus, n. sp.* with *a Note on the Genus Dipylidium Leuckart,* 1863. By Amarnath Gulati, M.SC. Price As. 6 or 8*d*.

Both to be had of Government of India Central Publication Branch, Calcutta.

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Census and Unemployment.

By the Editor.

Unemployment has been the question of the hour in India as elsewhere for some years now. There has hardly been a person of any note who has not spoken or written on it. So universal, indeed, has been unemployment in most countries, after the Great War, that the problem has assumed an international importance. Though this has been so, the remedies sought have been mostly national, if not wholly local, in character. In India, relatively to the population, unemployment has been a chronic complaint for many years now, but since the War, the distress created by it has reached colossal dimensions. The problem here, in India, is one affecting almost all classes —rural wage-earners, labourers in towns and cities, and the intellectual classes. An analysis of the position has, however, been found to be elusive. Though the general position seems fairly appreciable, its exact dimensions defy categorical enunciation. This is so not only in this country but also in other countries, where statistics are gathered with greater care and with considerable scientific precision. Thus, in the United States, in the summer of 1929, the Senate instructed the Committee on Education and Labour to investigate the causes of unemployment and to suggest suitable measures for coping with it. The Committee in concluding its labours, presented a Report which *inter alia* frankly avowed that it had nothing new to add to the information already on record on the subject of unemployment. Analysing the causes of unemployment as cyclical, seasonal and technological, it laid down a number of recommendations which are well worth consideration. Private industry, it remarked, should recognise its responsibility for stabilizing employment within the industry. The Government should, in its opinion, encourage this effort by sponsoring national conferences, publishing information concerning the experience of industries in this work, and seizing every opportunity of keeping the thought of stability uppermost in the minds of employers. Next, the Committee states that schemes against unemployment should, as far as possible, be confined within each industry. It rules out Federal interference as both unnecessary and out of place. If any public insurance scheme is adumbrated, it should be left to each State legislature to study it. A more important recommendation is that the States and Municipalities should be responsible for the construction of employment exchanges. The Federal Government should, on its part, be responsible for co-ordinating the work of the States, so as to appreciate the position in the national economy of any condition which may arise, and to help in the working of the employment exchanges on a national scale. The next recommendation is one of far-reaching character. It suggests that efforts should be made to provide an efficient system of obtaining unemployment statistics. The first step should be taken by the Census Bureau in 1930, when the Bureau should ascertain the employment position on a given date. The Government, it is suggested, should immediately institute by legislation a system of planning of public works, by which such works might serve as a reserve against unemployment in times of depression. States and Municipalities and other public agencies should, it is also suggested, do likewise. The Committee also recommends that consideration should be given to the effect on unemployment of industrial developments such as consolidation of capital, and to the necessity and advisability of providing a system of old-age pensions, either through private industry, through the States, or through the Federal Government. One other suggestion may be noted, and, that is one that supplies the dynamic force required at the top. The Committee proposes that the Employment Service should be reorganized and every

employee in it should receive the status of a civil servant.

Such, in brief, are the recommendations of the American Committee and they are well worth consideration in this country, where the volume of unemployment is a growing menace to the contented life of the people. The American move seeks to leave the initiative to the States and Municipalities, while endeavouring to keep the Federal Government at the top alert and alive to its own responsibilities. It seeks to divide functions, while the main duty of providing employment is made to rest on the shoulders of local governments and local bodies. The creation of a Civil Service group at the Federal headquarters means the setting up of an organization which will think out the problem and provide for the necessary co-ordination of the resulting activities of the component states forming the union. The idea of a census of unemployment is characteristically American and merits the closest attention in this country as well. It is a step in the right direction and is calculated to help in analysing the volume of unemployment on a given data in this vast continent. This suggestion has, we see, attracted notice in American itself as a noteworthy one. The American Statistical Association has formulated a scheme in this connection which might be appropriately referred to here. The Committee of Governmental Labour Statistics of this Association has suggested in a memorandum drawn up by it and communicated by it to the International Labour Office, the desirability of including questions of unemployment in the 1930 population census. This Committee points out that the need for comprehensive census data has become greater because of the unforeseen and unanalysed changes which are going on before our eyes in the growth of new industries and in the mechanization of innumerable occupations. It is no longer safe, it suggests, statistically to use samples of employment data or to make statistics without frequent checks based upon comprehensive information such as only the census can afford. Not only should the Federal Government count the unemployed in taking the census of population, but it should also make available the data on monthly trends of employment obtainable from the census of manufactures and similar information which, it is hoped, may be secured in the proposed new Census of Distribution. What the Association in effect requests is what it calls "a bench-mark of employment and unemployment," by which all efforts to increase the security of wage-earners may become susceptible of measurement (of results). Without such a bench-mark, all efforts are, in its opinion, more or less blind. It is remarkable that the Association should admit that in such a progressive country like the United States the number of persons out of work at any time has never been known, although many guesses have been made and much energy has been extended in attempts to estimate it. The need for such basic and extensive information was demonstrated a year ago when unemployment was widely discussed by business-men, who have to determine policies regarding the rate of their production, and by welfare organizations, which are interested in knowing whether the burden is likely to increase or diminish.

The suggestions of the American Committee strike us as eminently applicable to a country like India, where a division of functions, in regard to unemployment, between the Central and Provincial Governments and the local bodies is eminently called for. The careful working out of a scheme for combating unemployment in all its forms and in every part of the country should be devised by the Central Government and the local governments should be left the initiative in giving effect to the recommendations of the Central Government. The Central Government should be helped by a committee which should go into the question of unemployment and lay out a plan of operations for combating it. A reserve of employment on the model recommended by the American Committee should not be lost sight of. What is required is a more scientific mode of dealing with unemployment. With a change in the viewpoint is bound to come a change in the mode of combating unemployment in the land. If a scientific mode of combating famines is possible, a scheme for combating unemployment ought not to prove impossible. A Civil Service should be organised to think out the problem on scientific lines and for such a body the first requisite is data. Such data is possible if the coming Census can be made to take up the question and help to ascertain the employment position on a given date. A Conference of Census Officers should be called in and they with the aid of a set of administrative officers knowing the county both rural and urban, ought to be able to work out a plan on which the employment Census may best be taken. A few economists possessing statistical knowledge may also be taken into consultation for working out the details of the scheme. In our opinion, the ensuing Census affords an unique opportunity for the purpose and should not be missed.

Banking Enquiry.

By the Editor.

The recent action of the Government of India in appointing an All-India and several Provincial Banking Committees to thrash out, on certain well-defined lines, the question of affording further facilities in regard to banking in this country raises some important issues as to the position of banking in the Indian States. As the Indian States form about one-third of the area of India, it is necessary they should arrange to take the necessary steps to come into line with British India in the handling of this important question. Individual States will undoubtedly take stock of the situation and act as their own necessities might require. But some corporate action seems called for and that without delay, if Indian India is not to lose ground. This subject of increased facilities for banking is accordingly a fit subject—though a non-political one—for the States as such to take up and pursue on the lines chalked out for British India by the Government of India. If they did so at the present juncture, the possibilities are that they will have the advantage of the All-India Committee and the foreign expert or experts it is going to consult and also secure the additional advantage of the experience gained through the work of the Provincial Committees in whose jurisdictions or not far from them the several Indian States and their subjects operate in the trade and business domains. What is required is a combined policy and combined action, though the details of the Enquiry may be left to the agency of local States' Committees and Governments. What is urgently called for is a move for the appointment of local States' Committees for joint action with the All-India Committee.

So far as the Mysore State is concerned, there is hardly any question that further banking facilities are urgently called for. The Report of the Special Committee appointed by the Government to go into the question of Financial Aid to Industries bears out this fact in unmistakable terms. The possibilities of forming industrial banks as such are far too remote when general banking is still lagging behind. Indeed, any impetus given to the growth of general banking is likely to give an impetus to trade and commerce, which is likely in the long run to afford a satisfactory solution to questions affecting industrial finance. There is no short cut to industrial banking except through the means of developing general banking in the country. The patriotism of a banking account has still to be brought into being and unless that is done, there is hardly any chance for industrial banking on any large scale. Considered from this point of view, an industrial bank is the apex of a well-organized general banking system. A sound banking system is thus a pre-requisite for either a Central Bank or a true Industrial Bank. The crux of the position in Mysore as elsewhere in India is the evolving of a general banking system.

The evolution of such a banking system is doubtless closely connected with the development of the Mysore Bank which since its formation has done so much for financing the trade and commerce of the State. This, though an important aspect of the matter, need not stand in the matter of extending the benefits of the proposed enquiry to the State. Necessary steps may be taken to guard its interests. It might, at the same time, be utilized for the purposes of extending the benefits it has so far conferred on the people of Mysore.

Some idea of the work that lies before us in the matter of providing better banking facilities to the public may be had from a few figures that might be referred to here. In the Mysore State, according to the census of 1921, there are at least 105 places termed "urban" territory. These may be thus classified :—

(*i*)	Towns of 1,00,000 and over ..	2
(*ii*)	Towns of 50,000 to 1,00,000 ..	2
(*iii*)	Towns of 10,000 to 20,000 ..	7
(*iv*)	Towns of 5,000 to 10,000 ..	23
(*v*)	Towns under 5,000	71

Neglecting the last two classes, towns with a population of from 10,000 to 1,00,000 and over are 11 in number. It would be satisfactory if an attempt were made to provide the facilities of modern banking within the next few years to all these eleven places. The policy of the Government of India might prove suggestive in this connection. It long ago announced that it looks forward to the establishment of a branch of the Imperial Bank of India in every district and every town of India. Roughly speaking, there is at present one banking office for every 9,00,000 people in India. By way of comparison it may be mentioned that in Scotland, it has been said that "every village has its own bank". Dr. Macleod says that what the Nile is to Egypt so is the banking system to

Scotland—a fertilizer. Happy would be the day when each big village in the Mysore State would be in the position to boast of its own banking office. In England, every town with a population of 20,000 has, it has been remarked, "been overbanked". The last Royal Commission on Indian Currency and Finance thus observe on this point:—"It is proper for us to urge, and we do urge emphatically that nothing should be left undone which will tend to facilitate and encourage banking progress in India." This is a suggestion that deserves to be pondered in connection with the development of banking in this State. With a vast country like the Mysore State before it undeveloped so far as banking is concerned, it is hardly necessary to indicate on what lines the Government should act at this moment. The banking inquiry initiated in British India will enable our neighbours there to obtain far better facilities for developing their resources. In the wake of the development in banking that is expected as the result of the enquiry now adumbrated, the furthering of the moral and material progress of the people is bound to follow. Such a development is sure to be followed by a more widespread change in the economic habits of the people. Are we, in Mysore, to be idle gazers on the progress around us? Or, are we to demand such a development in our own territories? That is the question of the hour.

A point for consideration in connection with the development of banking in this State is the question of its possibilities. On this head, there need be hardly any doubt whatever. The deposit figures of the Government Savings Bank, of the Mysore Bank, and the manner in which the different State Loans and other calls made on the public show that there is money in the land but it is largely in a static state. The institutions that could make them assume a kinetic form are still to come into being. That is verily the *raison de'tre* of the banking enquiry. The Mysore Bank had, until 1919, but Rs. 10 lakhs for its capital and with it did good business in the State with advantage to itself and to the people. In 1919, when its capital was still Rs. 10 lakhs the reserve had reached Rs. 5 lakhs, its deposits had gone over Rs. one crore and its cash balance stood at Rs. 26 lakhs. This distinctly shows the potentialities of the position in Mysore. As Sir M. De P. Webbe not long ago remarked "India wants more banks manned by *Indian* men and furnished with *Indian* capital." The Government of India have come to realize this fact and are applying the principle by endeavouring to extend the benefits of a sound banking system in India. It would be advantageous to the State to initiate an enquiry here similar to the one they have started in British India, and explore the position on certain definite lines with a view to lay out a programme of banking expansion for the benefit of our people. If found suitable the Central Committee of the Government of India might also be utilized for our purposes. Any proposals in this connection might not prove ineffectual. The idea that has been thrown out in certain quarters that we might adopt the recommendations of the Indian Central Committee is far too childish for consideration. It is because the banking problem in India is closely connected with the Provinces, that Provincial Committees have been hit upon as a suitable agency for working and the details of a well considered scheme of evolution. The problem in Mysore is local to itself as much as the problem in Madras or Bombay is local to those Provinces. The essence of the scheme proposed by the Government of India is to *localize* banking in order to ensure the success of the scheme finally adopted.

Since the above was in type Sir Felix Schuster has advanced the suggestion that he would obtain facilities for information from the Indian States. He later added that Indian States which desire to adopt the machinery provided by the Government of India might set up their own Provincial Committees and help in the working out of a conbined All-India scheme in the matter of banking in this country. This is as it should be and is entirely in accordance with the views expressed above. We should like to see the suggestion taken up in earnest by the more important States as the question of better banking facilities is one bound up with the interests, as much of Indian as of British India.

While it is impossible to produce rain from an atmosphere that does not contain sufficient moisture, scientists have found that various forms of dust added to air saturated with moisture, bring down rain. An interesting demonstration of this phenomenon was given before the American Institute of Chemistry by Prof. C. F. Kniph of the University of Illinois. Taking a vessal in which the air had been saturated with moisture just before precipitation, he introduced dust by lighting a match near the retorts and allowing the smoke to filter in. Immediately the fog turned into rain.

Does the Stock Exchange Absorb Capital?

By Professor Gustav Cassel.

My inquiry into the above question has evoked a very animated discussion *all over the world.* My views have won numerous adherents, but there are still wide circles where my arguments do not appear to have carried conviction. Some people still maintain with great positiveness the opposite view, *viz.*, that, at times when the prices of shares are rising and shares are rapidly changing hands, the Stock Exchange is bound to absorb a considerable amount of capital, and that this capital must be taken from industry and trade. To inquire into the real truth is obviously a matter of great importance as it is scarcely possible to judge aright the economic situation of a country and the probable trend of developments if there is something wrong with the economic theories. This problem, moreover, has a direct bearing on practice as the way in which it is approached will affect the attitude adopted by the banks and especially by the central bank, towards speculation on the Exchange, and may often determine the character of legislative measures or other political actions. I shall, therefore, take up this subject for discussion once more and I will endeavour to bring it into the clearest possible relief.

When it is said that the "Stock Exchange" absorbs capital, the term should, in the first place, be understood to mean that group of persons who hold the shares which are usually dealt in on the Exchange, and those persons should be regarded solely as holders of shares. For the sake of clearness and simplicity, I shall begin by comparing the situation on the Stock Exchange at two different dates, say, the beginning and end of a year. I shall start out from a very simple case by assuming that no new shares have been introduced on the Exchange during the year, and thus that the stock of shares has been the same throughout the year.

To begin with, it should be possible for all of us to agree on the following simple propositions:—

1. If a *new buyer* of shares has appeared and has bought part of the stock of shares without any rise in price and *if he has paid for the shares solely out of his own resources*, the Stock Exchange will not have absorbed any capital from outside, and the supply of capital in the country will remain as before. The buyer has indeed withdrawn capital from other uses but the same amount of capital will have gone to the seller who will invest it in industry or commerce, or, at all events, outside the Stock Exchange. If this transaction is repeated any number of times during the year, the result is *bound to be the same. Thus it will make* no difference whether in the course of the year any seller has appeared also as a buyer.

2. If a new buyer of shares has *borrowed* part of the necessary capital, this will not materially alter the position. The only difference is that the capital has been supplied by a larger group of persons; but the entire capital will have gone to the sellers who will return it to industry and trade.

3. If the aggregate *price* of the shares has *risen* by a hundred millions, but if no shares have changed hands, the holders of the shares will not have withdrawn any capital from industry and commerce. True that they now possess a larger capital than before but this accretion of capital has been obtained in virtue of the rise in the value of the shares. Or, to invert the proposition: A larger amount of capital is indeed now required in order to hold the entire stock of shares but the additional *capital needed has been obtained by the holders* through the actual rise in the price of the shares and thus no capital has had to be withdrawn from other sources.

It has thus been established that no drain on capital is involved by the appearance of new shareholders, not by the borrowing of money for the purchase of shares nor by a rise in the price of shares. But, if none of these three factors entails the withdrawal of capital from industry and commerce for investment in shares, it follows that no combination of these factors can have that effect. Thus, if at the end of the year the entire stock of shares had passed into the hands of new holders, and if, in order to acquire it, they have borrowed a certain amount of capital so that they are in debt to that extent, and if moreover the value of the stock of shares is greater by a hundred millions than at the beginning of the year, all these changes taken together cannot have entailed the with*drawal of any capital from industry and com*merce. Thus the amount of capital available for industry and trade will, at the end of the year, be precisely the same as though these *changes had not taken place.*

It follows as a corollary from the above that no capital can be released from investment in shares by any reversal of the movement of prices referred to. If the price of the shares at the end of the succeeding year were lower by a hundred millions and if the shares were still held by the same holders, the latter would indeed be poorer by a hundred millions but this would be their individual loss. True that the sum needed in order to hold the stock of shares *would now be less by a hundred millions*: but no money would thereby be released: for the shareholders, having lost precisely that amount, would not have any surplus available for other uses. *Should the shareholders be in debt, but* nevertheless in a position to retain their shares, the position would be unaltered. And if some of the holders had been obliged to cede their shares at a loss and if the corresponding shares had passed into the hands of their creditors, the amount of capital available for industry and trade would likewise have remained as before. If the former shareholders had had money of their own invested in industry or commerce, and had drawn on that money in order to pay their creditors the amount by which their debt exceeded the value of the shares, the creditors would indeed have a corresponding amount available for investment in *industrial undertakings, etc.; but this, of* course, would not have increased the amount of capital available for industry and trade.

Let us now suppose that in the course of the year new shares have been introduced on the Exchange. New companies, say, have been *formed and existing companies have increased* their capital. If the stock of shares carried by the Stock Exchange has consequently been increased in value by a hundred millions, a corresponding amount of fresh capital will, no doubt, have been absorbed by the Stock Exchange. But this amount will at once have been placed at the disposal of industry or commerce in the various fields of operation of the *companies in question*. Thus the *fact that the* stock of shares on the Exchange has been increased in value by new issues has in no way robbed industry and commerce of capital but merely indicates that fresh capital has been supplied for productive uses through the medium of the Stock Exchange.

If a company has reserved part of its profits and its shares have conse uently risen in value, the possession of those shares doubtless represents a larger capital than before. The increase in the value of the shares is ultimately due to the reservation of profits. These profits, however, have by no means been withdrawn from industry and trade: quite the contrary. For the company will obviously have to find some productive use for its reserved profit; as a rule the money will be employed in the company's own business though sometimes it may be temporarily lent.

With the establishment of these elementary truths not the tiniest loophole should be left for the notion that the Stock Exchange—in the narrower sense assigned to the term here—*absorbs capital* or *that borrowing for carriage of* stocks involves competition with industry and commerce for the limited capital available for borrowing.

It should be noted, however, that a certain consumption of capital occasionally occurs in connection with Stock Exchange transactions. If the speculators regard the profits they have made on the rise of shares as current income, and if they consume that income, they will undoubtedly have withdrawn capital from industry and commerce for purposes of consumption. But this is merely a secondary phenomenon which has no intrinsic connection with the actual Stock Exchange transactions and has no bearing on the notion now under discussion. To realize this we need only consider that the consumption, as a rule, does not take place until the carriage of stocks has been terminated, and *at all events has no immediate connection with* that transaction, and that the money spent cannot be recovered on a general fall of prices and the winding up of Stock Exchange business.

It now remains to investigate how the question at issue shapes itself if the term "Stock *Exchange*" *is taken in a wider sense so as to* comprise also those persons who keep capital in readiness to buy shares on the arrival of a favourable opportunity. The term will then also include those sellers who, having disposed of their shares, have not yet decided on any new investment. It is in fact a very widespread notion that just this money which is being kept in readiness for future speculative *transactions is taken from industry and trade*, thus diminishing the supply of capital available for those uses. The theory that the Stock Exchange absorbs capital is, no doubt, to a great extent founded on the idea that the abovementioned transfers of capital to and from the Stock Exchange do not, according to the usual terminology, "take place without friction", but that it takes some time before they are carried out and that during this interval a certain amount of capital is withdrawn from industry and trade.

But the money which, according to this theory, should be unemployed is left with the

banks as sight deposits. The possibility that it should be kept in notes is of no practical importance when Stock Exchange speculators are concerned. Moreover, this method of holding balances does not in theory differ from that of *holding the money on current account* and it may therefore be left out of consideration. A deposit liability of a bank is, however, always balanced by a corresponding asset. In reality, therefore, the money is not unemployed but as a rule lent to the debitors of the bank. The only remaining possibility is that the bank has among its assets a corresponding amount in gold. The theory that the Stock Exchange absorbs capital must, therefore, purport that the speculators pile up balances on current account to such a height that, in the last instance, the central bank has to increase its gold reserve. This reserve constitutes, however, only a small percentage of the banks' total sight deposits. The possible increase in the demand for gold is in any case of a totally different magnitude than the demand for capital to which allusion is made when people speak of the Stock Exchange and its absorption of capital.

It might be objected that the Stock Exchange, in the wider sense now attached to the term, absorbs money in circulation to such an extent as to impede the regular supply of money to industry and trade. It is, however, not possible to settle this question without proceeding from a clearcut view as to the way in which the amount of money in circulation in a country should be regulated. I have long contended and have recently demonstrated that the most rational basis for this regulation is so to restrict the amount of money in circulation that the general level of commodity prices remains constant. Let us assume then that this has been the case and that at the end of the year the level of prices remains the same as at the beginning of the year. It is then obvious that the amount of money available for industry and trade cannot have been unduly reduced. Hence, if the Stock Exchange has absorbed an additional amount of money, the banks must *have created this money for that very purpose.* Such an increase of the amount of money in circulation as may be made in order to provide for additional means of payment is legitimate so long as the general level of commodity prices is not raised. We must therefore come to the conclusion that, if the Stock Exchange should require an increase in the amount of money in circulation and if the banks cannot avoid meeting these requirements, the increase can and should be made by the creation of new means of payment in proper adjustment to the aim in view: this money will doubtless consist mainly of bank credits on cheque account. In this case the amount of money available for industrial and commercial purposes will remain unchanged and the general level of commodity prices can thus be kept constant. Hence, providing that the bank policy is as rational as has been assumed, the Stock Exchange cannot, in this case either, have a disturbing effect on the amount of money available for industry and trade.

Moreover it is by no means certain that a rise of prices and greater animation of business on the Stock Exchange would necessarily result in the need of additional means of payment. This is a matter which depends on the organization of the Stock Exchange and on the customary methods of settling Stock Exchange business. It is in this respect instructive to study the conditions in New York, where, in view of the organization of the Exchange, particularly large demands for means of payment may be expected. In New York the index number for 392 share prices rose from 129.6 in November 1927 to 169.2 in November 1928. This, as we know, took place during a time of very wild speculation and of record dealings on the Exchange. The best gauge of the means of payment at the disposal of New York would seem to be the net demand deposits of the reporting member banks. For November 1927 they amounted to 5,439 million dollars, for November 1928 to 5,264 million dollars. Thus during the period in question the amount actually showed a *decrease*. On the other hand, the deposits were utilized with greater intensity. The New York Federal Reserve Bank publishes an index for this intensity termed "velocity of bank deposits, New York City". In November 1927 this index number was already 35 per cent above the normal level but in November 1928 had risen to 91 per cent above normal. For "member banks outside leading cities" the amount of the demand deposits had risen from 5,650 to 5,659 million dollars. It is thus evident that the supply of money to the rural areas was not curtailed in favour of New York.

During the period in question the industries of the United States, as we know, showed an immensely rapid, and in many respects, a record development. The index of the Federal Reserve Board for industrial production rose from 99 in November 1927 to 112 in November 1928. Thus the wild speculation on the New York Exchange had no retarding effect on the development of industry. Nor did this speculation cause any such shortage in the amount of money

available for industry and trade as to necessitate a fall in the general level of commodity prices. The index number of the Bureau of Labour rose from 96.7 in November 1927 to 100.1 in September 1928. In October, it is true, the price level fell to 97.8 and in November to 96.7, but this fall of prices seems merely to be an indication that the Federal Reserve system had adhered somewhat too long to its restrictive bank policy. Had the Federal Reserve Banks granted somewhat more liberal credits to industries, etc., it would, doubtless, have been possible to maintain the price level in the neighbourhood of 100.

The development in the United States shows that during a lengthy period of uncommonly animated speculation on the Stock Exchange the industries of that country were well supplied not merely with "means of payment", but also with "capital", in the meaning generally assigned to that term. This capital in part passed through the Stock Exchange. Loans were granted to the Stock Exchange, for example, by corporations which desired to obtain a high rate of interest on money temporarily at their disposal. This money, however, as has been shown, immediately returned to industry which thus received as much capital as if the money had been invested in it directly, and thus did not have to pay a higher rate of interest than would have been the case if the capital had been supplied direct. Of course, one may have one's doubts as to whether this circuit through the Stock Exchange was desirable. It may be contended that it caused, and is still causing, a considerable amount of insecurity which, if a reaction should set in, might conceivably lead to serious disturbance. In certain circumstances there may even be very good reasons for drastic restrictions in these loans to the Stock Exchange. But this is another subject which has no immediate bearing on the problem under discussion.

If Stock Exchange speculation does not consume any capital, it seems scarcely rational to endeavour to check speculation by raising the bank rates or by fixing particularly high rates of interest for loans to the Stock Exchange. The last-mentioned procedure may in fact result in the direct stimulation of lending to the Stock Exchange. This is just what has happened in the United States where capital from the whole country has streamed into New York to take advantage of the high rates of interest on the Exchange. It is true that, as has been shown here, a corresponding amount of capital was immediately released and reverted to industry. If it is really desired to avoid this circuit and, in general, to check excessive Stock Exchange speculation, it would be better to cast about for some other method. It has been suggested, for example, that banks should be debarred from further credits from the central bank if they have been found to have lent too much money on shares. Another method, which seems to deserve serious consideration, is to require a wider margin for loans granted on the security of shares. The banks might first agree on certain margins for such loans which would be applicable under normal conditions. A general increase in these margins would then be a good means for checking undue speculation. An abnormal rise of prices on the Stock Exchange owing to wild speculation ought at all events to be met by the refusal of any increase in the former loan values in spite of the increase in stock prices.

These, however, are technical matters which should be left to those experienced men who are responsible for the direction of the banking system. But it is obviously of vital importance that the settlement of such questions should not be impeded or warped by fallacious views as to the part played by the Stock Exchange in the supply of capital to the country.

There is a rather general tendency to saddle the central banks with the responsibility for a proper regulation of the Stock Exchange. This tendency must be combated. A central bank should have no other function than to maintain the currency of the country on a parity with gold and, so far as lies in its power, to promote the stabilization of the value of gold itself which is vitally important for the world at large. Only in so far as may be necessary in order to discharge this function, ought a central bank to intervene against abnormal speculation on the Stock Exchange. Strict adherence to its principal mission is here of paramount importance, as this manifestly affords the best possible guarantee against the central bank being driven into a policy governed by economic fallacies.

The New Zealand Government has decided to abolish the cash-on-delivery system under which oversea parcels are imported through the Post Office. The Prime Minister, Sir Joseph Ward, explains that the system made the Post Office an agent in trade exceeding £150,000 a year, and thus a great deal of work ordinarily undertaken by small traders was imposed on it. It is still possible for individuals to buy direct by making the usual Customs clearance.

Agriculture in the United States of America—I.

By Vishnu V. Oak (U. S. A.)

[*This series of articles have been specially arranged for in view of the recommendations of the Linlithgow Commission.*—Ed., *M.E.J.*]

The editor of this journal has asked me to write an article on this subject but my main difficulty is to give an accurate picture to my Indian brothers who have no conception of what America is like. In spite of the fact that I was raised in a big city like Bombay, I found out after I came to this country that all my reading knowledge of "America" had failed to give me even a dim conception about her. With the poverty we have in India, I could not then understand and realize how the average American girl could afford to visit cinemas regularly and feel that face-powder, rouge, lipstick, automobile, running hot-water faucets, and a hundred and one other things are necessaries of life. Let the reader, therefore, completely forget himself while he is going through these pages and feel that he is in a Utopia, not, of course, by any means an ideal one. As a caution, however, I may add here that while America is at the peak of industrial civilization, it has absolutely failed to achieve "peace of mind". She is hopelessly restless but we are not concerned here with that phase of American life.

The enormous wealth and power of the United States of America have often led us to confuse America with the United States of America (U. S. A.). There are two Americas, North and South, and U. S. A. is southern part of North America, with an area of about 3,000,000 sq. miles and a population of about 118,000,000. This gives an average of a little less than 40 people per square mile as against 160 in India and over 600 in England. The total "land" area is about 2,000,000,000 acres, half of which is used for farming. Of this half only 60% is improved land. The total farm population is 26,000,000 with a little less than 6,400,000 total farms, giving an average of 145 acres per farm. The total value* of the farm property is estimated at Rs. 1,71,00,00,00,000, of which land value alone comprises 66%. The average value of all farm property per farm is Rs. 27,000. In spite of the fact that machinery is used on a very large scale in farming, live-stock plays an important part in dairy and meat industry, and on a small scale in actual farming where horses and mules are often used. The total number of the live stock consisting of horses, mules, dairy cows, meat cows, sheep, swine and other cattle is estimated to be over twenty crores (20,00,00,000) with a total value of Rs. 14,60,00,00,000. In 1927, the number of animals slaughtered for consumption under federal inspection was 7,00,00,000 of which more than half consisted of swine and about 20% of the "sacred" cow and the calf. It is estimated that the average per capita consumption of meat was 139 pounds for the year 1927. Of this beef and veal (meat of the cow and the calf respectively) amounted to about 66 pounds. The average annual per capita production of butter and milk was 18 pounds and 80 gallons respectively.

In 1927, the average monthly wage of a farm labourer was Rs. 100 with board and Rs. 144 without board.

Before proceeding further with the actual condition of the agriculture in this country it would be helpful to the reader if I were to give a description of the typical American farmer, his home surroundings, etc. As I said above, the average farm has 145 acres of land worth around Rs. 200 per acre. In some places, the price is as high as one thousand rupees to the acre and even more. The farmer, unlike India, lives on the farm with his family. All his farm help also stays on the farm as long as they are working for the farmer. Like the city dweller, he has a telephone to keep him in touch with his neighbour and with the city. The radio helps him and his family to break the monotony of his isolated existence. His home is well equipped with furniture, gas, electricity and running water from a tank. He has an automobile, sometimes more than one. The automotive tractor, which does the work of eight or ten men and as many horses, is used for plowing, harrowing, planting, and sometimes, even for carrying grain to the nearest railroad station or the steamboat wharf. A different kind of automotive is used for the purpose of harvesting with the result that he saves a lot of expense for hiring men to do that job. The use of fertilizers helps him to keep the soil in good condition. His State Department of

*The total wealth of the U. S. A. is estimated at the fabulous amount of Rs. 10,00,00,00,00,000 with an annual per capita income of over Rs. 1,500.

Agriculture is always ready to help with its expert advice. He can keep in touch with the new inventions and discoveries in his field by reading the free literature supplied by the Government and also by reading from various other magazines that specialize in writing for the farmers.

These few statistical and other facts will, I hope, enable the reader to realize the enormous difference between India and the United States of America.

Agriculture was the main industry of the United States throughout the colonial period. Even after the war of American Independence in the latter half of the eighteenth century, it has been the only dominant industry for a long time. The value of exports in vegetable products in 1927 was Rs. 2,20,00,00,000 while that in unmanufactured cotton was still greater (Rs. 2,50,00,00,000). Up to 1880, fifteen out of twenty-one presidents of the U. S. were farmers or sons of farmers. Not until that period did the combined value of all manufactures surpass the value of agricultural products. To-day, this country is pre-eminently at the top of industrial civilization, but despite this fact it also surpasses other countries in agricultural development. This is due to a combination of the following favourable factors: diversity of fertile soils and climate which enable numerous crops to be raised; an energetic, resourceful and trained population; the enterprising spirit and diverse cultural element of the immigrants; the paternal co-operative spirit of the State and Federal Departments of Agriculture; and a highly developed transportation system of railways, telegraphs and telephones, public highways and automobiles.

The entire country could be divided into six important sections according to the dominant part played by a particular type of crop. This does not mean that wheat is grown only in the wheat belt. As a fact, this crop is grown in almost every state but not economically. The major part of the supply comes from the wheat belt.

Dairy and Mixed Farming Belt.

In the north-eastern section of the U. S. we have a relief that is fairly rugged but not a high mountainous region. The growing season in this region is comparatively short. The average farm in this section consists of about 84 acres with an average value of Rs. 108 per acre. Practically all the farmers of this region own their own farms and only about 6% are operated by tenants. The New England forms raise very little grain, largely because of the relief and soil, but mainly because dairy products, vegetables and fruits are more profitable. More than half the crops consist of hay and forage which are fed to cattle, while we find that the cattle raised on these farms are practically as valuable as the crops raised each year. Dairy and poultry products yield almost as much as the other crops combined.

Truck farms are generally profitable; for the areas cultivated are not as large as the average farm and intensive farming methods are employed. Due to the fact that the types of food raised make great demands on the soil, large sums are spent annually for fertilizer in order to make the soil continue to yield at a high rate. We find the largest truck farms along the Atlantic coast extending from N.Y. to Florida. The average annual income of the farmers in this section is Rs. 4,500.

The Cotton Belt.

The Cotton Belt includes the south-eastern states of the U. S. and cotton is the outstanding crop. The farms average about 31 acres in size but have a fairly high value per acre. The percentage of white farmers is extremely small, the majority of farmers being Negroes, practically all of whom as well as some of the white farmrs are *tenants*. Three-fourths of the income in this section is from cotton, while the remaining one-fourth of the income (about Rs. 1,050 on the average) comes from other services. One crop farming is frequently carried to extremes in this section. The social and economic conditions are also serious. The boll weevil and other cotton pests deplete the cotton farmers' income considerably. At one time in this section we had large plantations that were owned by whites, while the Negro slaves supplied the labour. When they were given their freedom in 1865 we find that they are in the same predicament as the Negroes.* The U. S. produces about three-fifths of the world's raw cotton. The average yield per acre is about 175 lbs. and the price per pound has varied from three and a half to seventeen annas. The total estimated production in 1927 was over 647 crores of pounds.

The Corn Belt.

The Corn Belt includes the prairie plains from Ohio westward through Illinois, Indiana, Iowa and Nebraska. The general level of the land not only makes the soil deep and fertile, but facilitates transportation, favours the use of

*About one-tenth of the total population of the U.S. is Negro or "Colored".

machinery and causes the erosion of the fields to be small. The Corn Belt has the advantage of unusually good climate both for men and crops. This section is one of the richest agricultural regions in the U. S. The average farm consists of about 166 acres with an average value of Rs. 960 per acre. 96% of the land is in improved condition.

The former, who is almost always a native born, is very prosperous in this region. Some places in the Corn Belt, tenancy has become common. The land has yielded so abundantly and is located so near some of the great consuming centres, such as Chicago and St. Louis, that the farmers have little difficulty in marketing their products. Many have retired and settled in towns. Their sons have gone to college or cities and do not care to continue work on the farm. As a result, their farms are often rented to tenants. In most cases, tenants do not cultivate as carefully and do not feel as responsible for the general good of the community as the owners. Tenancy, though a sign of prosperity, is also a warning of danger. About 44% of the land in the Corn Belt is devoted to other crops than corn. If the corn crop should fail entirely, the farmers of this region would still have a good income.

The United States produces from two-thirds to three-fourths of the world's supply. The average yield per acre is nearly thirty bushels and the price per bushel has varied from one to four rupees. The total estimated production in 1927 was 2,800,000,000 bushels.

The Wheat Belts.

The wheat belt is split into two distinct regions, hard spring wheat in the north-west of the U. S. and soft winter wheat to the south of this region. These two kinds of wheat have distinct climatic requirements, but in an intermediate type of climate both kinds can be raised profitably. Warm rainy summers stimulate the growth of wheat and cold winters help to keep down insect pests and fungus diseases. Corn and oats can also be grown very profitably in this region. The farms in this region are twice as large as in the Corn Belt, but their value is only two-thirds as great. The land in this region is fairly level. A large percentage of the farms are operated by tenants. The income from crops in the Wheat Belt is greater than from the Corn Belt Farms, but this is offset by the fact that dairy and poultry and other products is very small. About 67% of the land (an average of 182 acres for each farm) is devoted for grain. Wheat provides about half of the farmers' income. Animals provide perhaps a tenth; vegetables, chiefly potatoes, another tenth; and hay and forage crops two-tenths. The average production of wheat is about seven or eight bushels per acre compared with seventeen or eighteen for the same product in many of the Corn Belt countries. Agriculture in this region is one-crop type but is extensive rather than intensive. In this entire belt from North Dakota to Texas the variability of the crops from year to year is much greater than in other parts of the U. S. Farther east the rainfall is sufficient so that moderate drought does much less damage than in the Wheat Belt. In the dry regions of the West, irrigation insures rather uniform yield of the crops. The most important parts of the Wheat Belt, however, lies along the border line between the well watered east and the irrigated west. In the north, a cold winter may have a harmful effect. The farmers of the Dakotas and other states in the same longitude have large incomes in relatively good years but they are more likely to suffer serious reverse than any other set of farmers in the U. S.

This country produces nearly a fourth of the world's supply. The average yield per acre is fourteen* bushels and the price per bushel has varied from two to six and half rupees. The total estimated production in 1927 was 870,000,000 bushels.

Wool and Live-Stock Belt.

The cattle country comprises great areas in the dry parts of the west and beyond the rocky mountains. The number of cattle is, of course, larger in the states farther east but in proportion to the population the number is greater in the cattle country. Cattle ranches must be large. The farms in this region are about twenty-five times the size of those in the Cotton Belt and the average value is about Rs. 24 per acre. Only a small percentrge of the land is improved. A large percentage of the farmers are native born and tenancy is comparatively limited. The income from cattle is usually good with an annual average of perhaps Rs. 6,000. Scant rainfall frequently causes the grass to be of such nature that the farmer is forced to sell his cattle in poor unnourished condition, and, therefore, at a lower price. 70,000,000 animals were slaughtered

*" Our smaller yields are due to our extensive cultivation and not to a lack of knowledge; if a larger return becomes necessary, we can produce it by more intensive methods. "—Jennings, in *American Economic History*.

for consumption. The total wool production in 1927 was about 280,000,000 pounds.

Fruit Belts.

The Fruit Districts of the U. S. are irregular and quite scattered. In these places are raised grapes, apples, peaches, prunes and oranges. The grape farms are east of Lake Michigan and on the New York shores of Lake Onterio. Peach orchards are found in New Jersey, and apple orchards in Oregon, New York and New England. In most fruit districts the number of native white farmers is greater than 50%. On many fruit farms, the one-crop type of agriculture is rather strongly developed. A failure of a crop in the fruit section is a serious thing to the farmer. However, as a general rule the fruit growers over the country are prosperous. The high proportion of intelligent men among them is one reason why a co-operative organization like the Fruit-Growers' Association is so unusually successful.

These are the main six belts into which the entire land can be divided. We will now study some other important crops that grow, not in any one particular belt, but in various ones.

Oats.

The next important cereal is oats. At present 80 to 90 per cent of this crop is raised in North Atlantic and North Central States (The Wheat Belt). This country produces about one-fourth of the world supply. The average yield per acre is thirty bushels and the price per bushel has varied from eleven annas to two rupees. Total production in 1927 was about one billion bushels.

Barley.

One-seventh of the world's total supply is produced in this country. The average yield per acre is about nineteen and the price per bushel has varied from one rupee and four annas to four rupees (1919). Total production in 1927 was 266,000,000 bushels.

Rye and Rice.

United States produces only one-fiftieth of the total world production of rye. The average production per acre is fifteen bushels and the price per bushel has varied from one rupee and six annas to five rupees. The total production of rye in 1927 was about fifty million bushels. The price of rice has varied from two rupees to our eight rupees (1919) per bushel. The total production in 1927 was about forty million bushels which comes to a little less than one per cent of the world's supply.

Other Crops.

About three and a half million acres were planted in potatoes in 1927 giving a total yield of four hundred million bushels ; an average of 114.7 bushels to the acre. The price was three rupees a bushel. Sweet potatoes covered a ground of about a million acres and gave a total yield of 94 million bushels, an average of 111 bushels to the acre. The price was two and a half rupees per bushel.

Beans, peanuts, broom corn, clover seed, hops, hay, onions, cabbage and peas are some of the minor crops produced in this country. Among the fruits we have apples, peaches, grapes, oranges, pears, strawberries, raspberries, black berries, cranberries, cherries, lemons, figs and olives.

Canned Fruits and Vegetables.

The canning industry based on vegetables and fruits is a very extensive one in the U. S. Practically every fruit and vegetable is canned.*

The total value of canned and preserved goods amounted to over two hundred crores of rupees in 1927.

Sugar and Tobacco.

About four per cent of the total world sugar production is raised in the U. S., whereas the total consumption by the U. S. is 24% of the world supply or a per capita average of 114 lbs. per year. A considerable amount of sugar is imported from foreign countries.

It may not be an exaggeration to say that nearly half (if not more) of the adult male population (and quite a large number of the other sex also) smoke cigars or cigarettes.

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*The fruits or vegetables are first cooked well, then put in tin cans by canning factories, and sealed at both ends so that it could be preserved for future use. Of course, one can buy fresh vegetables and fruits, but one cannot do so all the year around as they grow only in particular seasons. If one has canned goods, one may have them for use at any time. This saves time and worry.

"We hear but little about the beginning of the canning industry until near the middle of the last century ; in 1846 fruit and vegetable canneries were in operation in New York, Boston, Baltimore, Newark, Portland and Eastport (Maine). Those of Newark prepared the canned goods for Dr. Kane's arctic expedition. After 1850, canneries began to develop rapidly under the stimulus of an increasing demand for goods ; they were introduced on the Pacific coast as early as 1856, and by 1866 they existed in most fruit-raising and vegetable-raising regions. The industry has had a phenomenal success. Likewise the drying of vegetables and fruits, which is another method of preserving them for use out of season, has become a prominent adjunct to the basic industry."—*Industry and Trade*, by Bishop & Keller, p. 82.

U. S. produces a little over one-third of the total world supply. The total production in 1926 was 130 crores of pounds.

IRRIGATION TYPE OF FARMING.

The irrigation type of farming is found on the western border of the Dry Plains, and interspersed among the ranches of the Rocky Mountains Cattle Country. It is also found scattered here and there over all the dry region of the U. S. as far as California. This type of farming in the U. S. is perhaps the closest approach to the ideal type of farming so far dependency on a variety of products is concerned, as one can be certain of good crops each year. Also, there is freedom from draughts or wet spells which are usually the farmer's greatest difficulty. The average income from the irrigated type of farming is something over $2,000 and the expenditure for labour is very small. Practically nothing is spent for fertilizer as the soil is rich and new. The irrigation makes the farmer independent of rainfall while the abundant sunshine and rich soil of the dry regions assure him the other requisites for good agriculture so that he can count on steady prosperity. Tenancy* is rare and the percentage of native white farmers is high.

The agriculture of the U. S. stands on a rather sound basis. It is quite varied adn no condition of weather or any other natural disaster is likely to throw the entire country into distress. If a crop in one region fails, that in another is sure to be good. Railroads and other facilities of transportation and communication are so well developed that farmers are able to market their crops fairly, cheaply and promptly.

In the next article I will discuss the following topics: The Department of Agriculture; Government Colleges, Extension Work and Experiment Stations; Government and Agricultural Pest; Government and Farm Credit; Tariff; and Farm Population.

*"Although renters have increased from a fourth of the total to nearly two-fifths in forty years, there is little real cause for alarm, for the rate of increase is declining. Moreover, a careful government study in 1900 showed that few landlords owned more than one farm, that the typical landlord resided near his farm, that few lived in foreign countries, and that many landlords were related to the tenants. Age statistics indicate that many farmers begin as labourers, then lease land, and eventually become owners. Viewed in this light tenancy for many farmers is a transitory stage to ownership."—Jennings, *American Economic History*.

A New Line for Co-operation in India—III.

By Miss G. Ponnaiya, M.A.

Labour could be given a more hopeful prospect if all its conditions are studied and remedies applied. The minimum wage for each locality, education, literary and technical, a raised standard of comfort, insurance against sickness, accident and death must all come into a scheme which will produce the required organized reliable labour. But, the attempt to fashion labour to the required standard has to be made according to the essay by a combination of the elements—co-operation, banking and labour.

Since the place of capital or deposit in a bank is to be taken by organized reliable labour, it would be necessary to start a number of labour banks throughout India, embracing districts or taluks or even such parts of them as could be treated as industrial units or centres. These must be co-ordinated with one Central Bank, and should have the same relationship to each other as the federal banks of the U. S. A.

Each bank in an industrial centre should be known as the Labour Investing Bank of the locality. As single units of labour would find it difficult to find a ready market to sell their capacity to work, the labour investing banks, being a corporate body of labourers, will act as agents to find ready markets for the production of different kinds of labour.

Each bank must keep a detailed census of labour available as we have mentioned already. Then the units of labour should be examined by medical and technical experts, whose services for the purpose must be retained in the main banks, and whose duty will be to tour round their specified areas for examining labour units. The medical examination must be such as to certify the labourers' fitness for work and life insurance. For all cases where medical opinion is against issue of an Insurance Policy, a Provident Fund Scheme on generous lines should be instituted. It should be made compulsory to insure at least

one-tenth of the capacity to work. The method of enrolment is indicated below. A register should be opened wherein may be recorded all general information of each labouring unit. *In this register, the number assigned to the* member, name, father's name, residence, past occupation, age, etc., will be duly noted. The left thumb impression of each member together with the signature of the party if illiterate must also find a place in this register, as a safeguard against possible fraud, and false personification. A slip would be issued on completion of the registry to each member. He should then undergo medical tests and afterwards directed to the next sub-departmental officer who would issue metalic :okens wherein is the following superscription:—

" The Co-operative Labour Investing Bank,
....................Taluk or Area.
No...........".

On presentation of this token, the labourer would be directed to appear for an efficiency .est on an appointed day. Testimonials are *often found to be misleading.* Therefore a 'areful test of working capacity is necessary before one is made eligible to become a share-iolder in the bank. This test would thus help o arrive at an approximate estimate of the arning capacity of the member. In other vords, it should be an index of the capital leposit of the labourer. Each Department vill enrol members after testing them with the :ind of labour they could turn out and will be rovided with a Depositor's Book in which ntries will be made of all transactions of ibour for which they are employed, their ctual and net wages, etc., as also their assets *nd liabilities in respet of insurance, provident* inds, savings banks, and any loans they iight have been granted against the security f their assets as is done in co-operative banks.

The estimate of the capacity to work in relaon to price-level, *minus* the insurance provion, etc., would be the deposit which a share-olders places in this bank. A labourer who irns Rs. 400 per annum would thus be reirded as having deposited about Rs. 300 r the year. No actual money-capital being vested, labour would be valued in terms of e exchanging medium, namely, money. In ite of the fact that the recent war taught us place very little confidence in exchanges ised on monetary ratio, we have to resort to oney calculation since money is the only iderstandable medium of exchange of comodities, although at the same time it is portde crystallized labour. Money has also got a

and influence among the masses. Cohn says 'History never can estimate the importance of the part played in human progress by the yellow metal. It was the tool placed by nature *into the hands of man for the erection of an* edifice on which was to dwell a race emancipated from physical care and free to devote its mental gifts to the highest aims. But in all animate nature, the evolution of the lower to the higher forms is replete with the tragedies of the struggle for existence. The golden tool became the master of the workman setting the pace for him and driving him pitilessly and relentlessly toward the completion of a task he understood not. Now the tool fails for further service. It is breaking in man's hand." If an inanimate thing like money could prove harmful, organized reliable labour which is the *concentration of human energy,* if used for production, would surely result in greater happiness through a greater output of goods which would again endow greater ease, comfort and convenience upon labourers who are now groaning under the yoke of machinery. Capital enhances production. Without the help of human energy there will be no production which could have value in the economic sense. Hence all money capital without the help of human energy is only a waste of metal. But how can a barren metal breed? Adam Smith lays stress on the fact that money does not do anything; but it is the human energy that makes up for everything. So, he says that "The annual labour of every nation is the fund which originally supplies it with all the necessaries and conveniences of life which it annually consumes." This proves that human *labour is the root cause of activity in the economic* field. Money capital is not very reliable, also, at the same time. During the recent war, the exchange rates jeopardized the currency ratio of exchange and succeeded in shattering the well-known economic dictum that " Unless and until the law is altered the mint par cannot alter ", thus giving rise to the theory of the Purchasing Power Parity. In fact capitalism suffered " from financial heart-failure ". It is desirable to replace such moneraty capital which will not give rise to violent fluctuations of its own value as money does. After all, the industrial prosperity of a nation *is measured by the surplus power of purchase or* command it has over the goods of other countries. In other words, it is the result yielded from excesses of home-production and services *minus* consumption of goods and services of other countries. To possess such industrial

labour. All human activities, whether mental, physical or both, tend to produce something to satisfy some felt want of man. The human energy thus spent gets compensation from society in the form of wages. This value is spread over all the commodities produced. Thus, the satisfaction of the human needs expressed in economic terms has utilities *of time, of form and of place, which human* labour alone could effect to material things found in nature giving rise to value. Value is subject to fluctuation according to the demand for and supply of the commodities in question to social requirements. Value is only expression of the units of labour required to effect economic utilities to commodities. Price is the monetary expression of what society is willing to give to commodities at a given time. In spite of the utility of the commodities remaining constant, price possesses the quality of fluctuation according to the demand for and supply of the commodities in question at a given time and at a given place. This fluctuation may be due to the whims and fancies of society and other frictional elements in economic life, and gives rise to the surplus price, which forms the capital, a vehicle for further production. The money expression which forms the surplus is regarded as capital in the present business world.

The capacity to work as estimated by the expert will then have to form the capital or the deposit to the bank. This labour capital should be subject to re-estimation annually or biennially by a special Board which should be constituted of representatives of the labourer employees and some neutral elements, who would decide upon the needed revision and other questions concerning the fixing up of wages, etc. The special board for the locality first of all should frame rules in the prevailing languages of the locality. These should be circulated among the labouring units and the employers, embodying briefly such conditions as are required by the shareholder or the labour depositor.

The special board first of all has to fix the minimum wage for the locality which ought to cover the minimum necessity for existence. It ought to aim at prevention of exploitation of labour for selfish ends. It ought to be the means to protect labour from being sweated and uphold the cause of the employees against the hard-hearted employers. Each labour investing Bank ought to be the co-ordinating influence between the labourer and the employer, and prevent strikes and lock-outs so that when this scheme comes into force, there will be no repetition of failure of negotiations between them. The co-ordinating influence which these banks ought to exercise must result in the maximum happiness of the parties concerned. In this connection, it may be observed that the banks will function as monopolists regulating labour for the demand. The neutral elements in the Board would be of use in settling wages and hold the balance evenly between the undue exploitation of labour on the part of employers, and undue pillage of capital on the part of the employees. In fixing wages, the ideal must be kept in view of industry and economic pursuits being only the means of securing happiness without impairing any of the agents of production. For the sake of getting the maximum results with a given output of energy, wages ought to be graded according to capacity and skill. Wherever possible, piece wages or time wages system should be followed. A recognition of individual merit would evoke the best in man and help him to put forth his best endeavours in production. Thus, the sense of responsibility is aroused in him and help him to exhibit his utmost capacity and skill. Wages, however, should be able to keep pace with the rising price level. Though high wages are an end by themselves, they are by no means indicators of the prosperity of a country. High wages combined with high prices means nothing from the point of view of the labourer, because, the purchasing power of the commodities cannot remain constant. But adjusting wages to the required change of price level is possible when there is harmony among the various agents of production. Harmony in production is possible when each labourer recognizes his share of responsibility and discharges it according to the requirements of production, so that production might not decrease. This would help the employers to recognize the special merit of the individual either of skill in handiwork or capacity in management. Economic society will have to recognize the special merit of the individual and remunerate him. This would spur others to emulation and thus would be evoked, pride in handy work as well as the team spirit. According to the scheme, the banks would be the proper institutions for promoting the interests of labourers, and for helping to convert their brainy inventions to practical use.

In regard to disputes and cases of aggrieved injustice, the bank has to institute courts of justice where labouring units charged with misconduct or breach of moral trust would be allowed to plead. A jury composed partly of

workmen and partly of employers unconnected with the case could be empanelled and a judge appointed. The decision of this court ought to be made binding on both parties concerned.

Voluntary withdrawals ought not to be allowed unless there be sufficient cause to show that these have really a just cause. Cases regarding withdrawals ought to be treated in the *main banks*.

In addition to the enrolment of purely full-fledged labourers, the banks should entertain apprentices. These would form the bulk of borrowers from the labour investing banks. They must be allowed to borrow at a discount as in ordinary banks. This discount is applied for deduction of interest from the principal for a specified period before realization of the capital. The security offered in return by the apprentices will be a bond on stamped paper attested by two witnesses agreeing to serve for some specified years in return for tuition with or without stipend. Thus would be created a reserve of extra supply of workers who could be deputised when there is any extraordinary demand on the main bank.

Local Co-operative Investing Banks should specially maintain a history of each labouring unit in order to find out its capabilities at any given time. A service register for each labour unit may be opened.

Business-men could apply and obtain a supply of labour from local labour banks. The banks would issue printed paper notes of different kinds according to the requirements as *1, 5, 10, 50, 100, 500, 1,000*, etc. These notes are to be presented by labouring units to their respective employers who have to pay them according to the amounts specified thereon and return the notes thus received to the banks. If they are paid in lieu of money to any labourer, he may invest surplus money in his co-operative bank. The bank should issue notes to labouring units by a special agent appointed for their locality. The terms of contract between the employers and the banks should be specific and plain to both parties. The Labour Investing Banks too should have to send books for the purpose of being entered in the employee's books. The proper working of this bank will be understood by looking into the constitution and function of the main banks.

Constitution & Function of the Main Banks.

As India is a vast continent, Main Banks have to be established in different territorial areas which could command a number of local banks. The Main Banks should have on it representatives of its local banks. These banks will have under their control a number of doctors and handy-craftsman whose duty will be to examine, inspect and certify to the capacity of all local banks. Special boards will have to be formed by these banks when question of dismissals and other disputes arise.

The chief function of this bank has already been indicated above. The issue of paper notes to all local banks will rest with this bank. These paper notes will function like any other paper currency but with this defect, *that it has power to exchange into* bullion and the labouring units really work and present the same to the employers for encashment. It has to maintain stability between the price level and the purchasing power of the money. In this connection, we have to bear in mind that money or capital has the power to increase itself out-distancing the increase of human energy or the creation of new labouring units. Money, according to this, could be increased faster than man. Organized reliable labour which is rather stable would be less subject to violent fluctuations or depreciation of value. Only, a sweep of virulent epidemics could make labour dear. Most of us have great faith and reliance on gold and regard it as anchor to be relied on in times of distress. The lack of stability in money leads to inflation, that is, when there is an increase in the volume of currency of paper money without an equivalent bullion to back it up. Such inflation led, during the last war, to the loss of *the intrinsic value of the currencies and the* upsetting of the stability that was being maintained between the domestic currencies and foreign ones. H. C. Walter says that "Currencies came to represent merely a right to fluctuating quantity of the produce of the country and nothing more. Having lost the gold basis and with it intrinsic value and stability of the currencies in question were at the mercy of market condition." The evil effects of unstable currency can be avoided by maintaining a par between the price level and the purchasing power and issuing just the number of required notes for payment of the labouring units. Thus there will be no inflation of currency.

In order to maintain the relation between the price level and the purchasing power, the main banks have to regulate the rate of discount. Ordinarily, the rate of discount influences price level. But when a bank has organized reliable labour as its capital, there is very little likelihood of such an influence being used with pernicious effects. When the

discount rates in these banks are raised. from the point of view of the employers, the price level need not correspondingly rise as it would merely show that there is a dimunition in the supply of labour while the commodities remain constant. The keener the demand for labour the better would be the prospect for the labourer. But from the point of view of the labouring units, if the discount is raised, the price level would be lowered and if the discount is lowered the price level would be raised. By adjusting the rates of discount, the bank can enrol labouring units and at the same time secure them necessary comforts. The discount rate would thus be a weapon that could be used for supply of and demand for labour. With this weapon they could hold the balance even between wages and the purchasing power of commodities. In respect of this function, main banks would be the monopolists trying to secure the greatest net profit, that is the attaining of maximum happiness to the greatest number. The evils of competition and contract have to give way and the main banks will succeed in promoting economic unity such as the caste system of the days of pre-British Rule maintained. Inflation and deflation will find no place in the newly proposed scheme.

Besides all these, each local bank has to collect facts and figures and send it to the main bank. The main bank on the strength of the aggregate estimated amount of capital of the banks within its jurisdiction should issue notes which will have currency like other notes. The main bank might also do a clearing house for exchange when notes of other main banks come in. There is, however, the danger of the main banks becoming prejudiced and local. With a view to avoid such a danger and to weld India into one, it is necessary that there should be a central bank for the whole of India.

A Central Bank for India.

The Central Bank will have to represent the interests of all the main banks in India. It should be the very core of the living organism of economic India. Its relation to the main banks and their relation to the local banks must be made very vital and not mechanical.

The Central Bank should be composed of representatives from the various main banks who have carefully studied the conditions of their area. There should be meetings of various representative members to discuss and find out ways and means for improving and uplifting the conditions of banks with the report of their own banks. All cases against the Main Bank Managers should be dealt with by this Central Bank. It should perform the function of a clearing house for both the Main Banks and the Government Banks. It has to keep account of the workable capital that each main bank has. Its chief business is to study foreign exchange rates and direct production to suit the changing needs and the prices. It should also find out the latest improvements to machinery, etc., and make efforts to have such of them introduced into India as are desirable and necessary. It should also award scholarships to those labouring units who are recommended to them by the main banks, and thus promote further technical education either in India or in foreign ountries. It should study and suggest all possible ways of improving the output of goods and production on large scale.

These labour banks would be their own banks, their own courts and their own municipality. They will have to be maintained by a small percentage of the income that the labouring capital could command. The Co-operative Banks would thus be able to achieve the ideal of holding the balance among the agents of production and would be able to say that "it is not for this little moment we're fightin', not for ourselves and our own little bodies and their wants, 'tis for all those that come after throughout the time." The publishing of facts and figures would give the necessary public confidence. Having thus suggested the putting of the banks on a workable basis, we have now to see how these will provide plenty of commodities and unify India.

Promoting Industries.

The providing of work for individuals means turning out of certain things useful to men, in other words, output of goods. When output of goods exceeds requirements, the price level is lowered, while creating a necessity for finding out markets for the goods produced. When industrially advanced countries conquered lands they were out not only to exploit raw materials but also to find markets for their finished goods. If organized reliable labour could be obtained as suggested in the scheme under the direction of the Co-operative Bank, the barren desert could be turned into a fruitful garden. Most of the raw materials that are now being exported to foreign countries will hereafter go with some modifications. Hence there will be little room given to export unmanufactured lac, or hides, or other materials to other countries. But this use of the potential capital (of labour in India) is not enough to make India a self-sufficient economic unity. There is a hostile

element which comes into play while the economic progress of a country is being gradually achieved, and that is the element of the comparative cost of production which gives room in international trade to territorial division of labour. Because India is continental in character, we cannot sever her economic connection with the rest of the world. The territorial division of labour which results from the superiority of skill exhibited by one nation over another will have to continue. But the Co-operative Bank has to look only to such of the indigenous industries as suffer from lack of encouragement and protection. We are not advocating a Khaddar movement or a boycotting policy in thus asking the Co-operative Bank to steady the tottering industries of India.

For instance, the indigenous woollen industry of the Mysore State needs studying. An investigation into the wool weaving conditions in Kolar exposed the following facts to my notice. A Kuruba desiring to weave a Kumbli worth Rs. 6 requires—

	Rs.	A.	P.
6 seers of wool costing	1	8	0
Sorting, cooly for bowing, carding and dying if required	2	0	0
Cooly for weaving one Kumbli ..	2	0	0
Total expense incurred is ..	5	8	0

The difference of eight annas has to be divided for capital and supervision, etc. As a general rule, the Kurubas who weave Kumblies are often indebted to intermediaries who are the bankers and brokers of the Kumbli production and who take away each Kumbli at the rate of Rs. 5-8 leaving nothing to the weavers. Therefore, such an industry as the Kolar Kumbli Weaving requires the interference of a bank to organize labour and find a market for the finished goods. The Kolar Kumbli Weaving Industry stands a good chance of beating down the machine-made woollen goods, if only pressing and milling be introduced. This will mean an additional cost but it will give the required softness to thing produced. The Kolar Kumbli Weaving Industry is not a stumbling block to the sale of machine-made woollen goods, for the yarn that is used by the indigenous weavers is hand-spun and not machine-made. Besides, they do not use tannery wool, because it has not the required strength in the yarn. Again, it is only the wool discarded by the weavers which is taken over to machines for making yarn. Thus by safeguarding the interests of labouring units, the Co-operative Banks would be able to confer a boon to the Kumbli industry of the State. In indirectly aiding the Kumbli industry of the State, the Bank will bring many acres of uncared-for pastures to use. For according to the demand for wool, sheep farming would be encouraged. The *maidan* districts of Kolar and Chitaldrug have a tendency to grow fine-fleeced hybrid sheep, but the *malnad* sheep as a rule yield only coarse wool. Consequently, furthering the prospects of weaver means furthering the prospects of the sheep farms.

The uplifting of a labouring unit means uplifting of many peoples' condition. It is said that all mills in Lancashire would have to work full time if an Indian ryot is able to afford an additional Dhoti per year. The betterment of Indian labour condition will indirectly mean the betterment of all economic producers. Hence, while looking to the needs amongst us and around us and while trying to bring in happiness nearer home, we might contribute to happiness of those who are thousands of miles around us.

The idea of comparative costs of production will in the long run be developed to its fullest extent in India, when equal opportunities are provided to the labouring units. Agriculture, which is the main occupation of India will flourish, and with its development, industries connected with it will also flourish. The improvement of agriculture, the putting forth of the best available energy and intellect for obtaining greater output of materials will provide plenty of employment for the labouring units. The construction of roads, railways, canals, the digging of wells, of tanks, the intensive and extensive cultivation of land according to its condition, will give plenty of employment. Many labouring units who are unemployed would find new avenues of work. The construction of canals, railways, bridges, of houses and buildings, would mean that more people of brains will be employed as engineers, draughtsmen, etc. Hence, the absorption of organized reliable labour in such channels of work as indicated would solve the present unemployment problem. According to provision for work would be the output of goods. Therefore, the construction of roads and railways though indirectly helping to solve the problem of unemployment would give rise to place utilities. Good means of transport would create other utilities which will revolutionize production. Greater output of goods by these means necessarily implies greater dividend per man. It will mean that each individual labouring unit will get a share which will enable him to live a life of comfort and ease.

The next question that crops in here is whether the adoption of such measures would concentrate labour to one side and thus give rise to under-employment and unemployment. Unemployment and under-employment ensue, because the demand for labour is meagre, while the supply of the same is in excess. The reason why such an unequal state of things prevails is that some industries lack the sense of proportion in order to adjust themselves to their demands. In the time of boom they forget that other industries have not kept similar pace with them. In the time of boom, they selfishly look to their own well-being losing sight of the trade cycles, which inevitably would follow them. Those industries which keep even pace with other booming industries suffer at that time. But when once normal condition is reached those industries who were fortune's favourites during the time of boom feel that they have been producing far too much over and above actual requirements of consumers. In their attempt to adjust themselves to the normal, they find that depression has already set in and become obliged to throw out labouring units or underpay them. The lack of proper proportional space that ought to be kept between industry and industry thus leads to unemployment and under-employment. But, in the case of the Labour Bank, there can be no unemployment or under-employment, because each locality will be able to find out the number of unemployed, and with the assistance of other Co-operative Labour Banks will be able to send out the surplus units of labour to places where they urgently needed. Hence, there will be no room for unemployment. Besides the rate at which each individual unit consents to work is fixed and there will be no under-employment.

Sometimes, unemployment ensues as a result of abnormal conditions, *e.g.*, soon after a war when there is demobilization, or when there is a more violent fluctuation of exchanged rates compared to domestic currencies. The employment of labour at such a time is a difficult matter. The problem of absorbing surplus labour, which is generally used to secure economic stability during the onslaught of foreign elements, is difficult to solve. When such pressure is felt suitable outlets must be sought. The repairing work of canals, bridges and roads, as well as the reconstruction of houses and buildings could be made to absorb many of the unemployed. For the rest, the Labour Banks in India must act as exchange bureaus and devise ways and means for the absorption of the extra available labour.

SCHEMES FOR ABSORBING THE UNEMPLOYED.

One of the remedies for unemployment in India, which has been successfully worked out by the Government, is the launching out into large irrigation schemes. Where this is not possible, the question of afforestation of areas having scanty rainfall could be similarly taken up. The construction of suitable dams across rivers would also help to bring much waste land under cultivation. The devising of ways and means for a more extended use of raw materials within the country for industrial purposes as well as consumption so as to restrict export would also help labouring units in this direction.

It must be fully realized that labour has the power to multiply itself, because all labour is directed to produce the felt want of man. In producing one utility there is also room for other utilities to develop. For instance, the Americans introduced the manufacture of hats, shoes and furniture to the Philippinos in the Philippine Islands with a view to supply America with these goods. This indirectly resulted in raising the standard of comfort of the inhabitants themselves since they have now taken to wearing hats and shoes. Thus, the production of a utility of form, of place or of time, results in creating other felt wants. Hence production has to be adjusted to the growing needs of demand. It is, therefore, found that production of utilities would tend to the creation of other needs, which again human energy alone can satisfy. Consequently, there would be employment for all. Thus employment could be found for Indian labour even in times of acute distress although this may sometimes involve the movement of labour to other parts of India.

The entire lack of sympathy between the capitalist and the labourers often leads to the destruction of wealth, *i.e.*, production, according to the present-day methods of production. The Bombay mill strikes which recently assumed serious dimensions endangered life and property in that city. The want of effective negotiable instruments or bodies in India brought about such a disaster. Misunderstandings on the one part and the callousness on the other is bound to vanish when the co-operative investing banks is allowed to co-ordinate the agents of production and create a better understanding among them.

MITIGATING THE EVILS OF CAPITALISTIC PRODUCTION.

The capitalistic system is very harmful and should be done away with. For, as Upton

Sinclair says " The capitalist system sets up its colossal slander—mills, with a staff of secret agents, forgers, and safe-crackers and confidence men—a devil's crew. The people, of course, have no conception of this machinery for the manipulating of their minds; and how pitiful to find a haughty intellectual as credulous as the poorest clod hopper! It is one more demonstration of the fact that a modern man who does not understand revolutionary economics is a child wandering in the forest at midnight." The present-day capitalist production tends to increase the class-war between the agents of production. The required harmony between the various agents of production could be had only when production is made to subserve humanity. The present-day tendency tends to understand this humanistic position in regard to capitalistic production. Hence, the Co-partnership Scheme and Profit-Sharing Scheme were invented to avert the evils of dictatorial capitalism. But the industrial world, for the most part, has not realized human needs to such an extent as to make capital serve humanity. That is why Mr. Cole remarks that "Capitalism has become the State's accredited industrial agent and State control has only served to strengthen the capitalist control over industry." But this does not necessarily mean that the State which chiefly looks to the economic activities of the subjects, is unaware of the excess of power that capital has. Consequently, the State curtails the power of capitalist by imposing levy of excess profit-tax and other measure with a view to checking them. So also, in the case of labour, the intervention of the State as in the military service act shows that the State is desirous of maintaining the balance between the agents of production. But the modern world hankers after the capitalists. "The worship of capital is the State religion of capitalist society; its psalms are chanted from every rostrum and its praises are sung by the mighty." It is therefore desirable to have capital for further production and not as a means to curb individual energy for selfish ends. The Co-operative Labour Investing Bank would work "for the deepening of national life, for the realization of greater joy and a greater individuality", provided it gets the support of the deposit known as organized reliable labour.

DEVELOPING HOME INDUSTRIES.

There is also great possibility for labour to develop agricultural industries in India. Java, Formosa and India produce sugarcane. But industry has captured the Indian markets. Japan is now trying to increase her production. India lags behind for want of good seed, trained hands and machinery. Competition in the sugar market among the foreign countries has become so keen as to raise the price of the home made jaggery to that of sugar, so that many consumers are induced to buy sugar. Such an ousting of local industries should be carefully watched, studied by the Central Bank and prompt measures taken to avoid the danger. Local refineries ought to be set up to produce sugar and beat down foreign competition.

This brings us to face the difficult question of marketing of goods. It is said that by the conquest of capital, the Westerners have conquered markets. The produced articles ought to find markets for their own goods. It is desirable to have some protective measures—by common national consent than by any legislation.* Trivial trinkets, cheap home-made goods, artificial silk, yarns and goods and other cheap articles from Japan have found a market in India. The policy of the Bank should be to encourage the manufacture of similar goods in this land. With the skill and excellence which the possesses, India can turn her raw materials into those trifles consumable within her own borders. Then she could stand a chance of competing in other fields of industries. Japan, within the space of half a century, has captured the Indian market. India need not go out to find markets if she makes full use of her natural resources and can easily oust foreign goods. When orders for goods flow from bank to bank, arrangements can be made for both production and supply. The Indian banks should study the changing tastes and fashions in India and be able to adjust supply to requirements.† More kinds of industry would thus be started and more finance and skill expanded with the result that more benefit would be conferred on Indian labour in particular, and the Indian

*For instance, the interests of the Indian Industry may be secured by refusing all cheap Japan-made trinkets, such as toys, celluloid dolls, bangles, matches, glass-ware, etc., and demanding articles wrought in home industries.

†Production of home-made articles should also be adjusted to the changing tastes of the Indian people so as to secure the required continuity. The failure to adjust to the changing needs and tastes of the consumers of cotton manufacture of Bombay, gave room for the Japanese to successfully compete with the Bombay people in the Indian market. It is, therefore, the duty of the Banks to study the tastes of the consumers and adjust production, so that both labour and capital might not suffer when any frictional element in pro-

economic position in general. But care must be taken to avoid the danger of our land occupying a position of "splendid economic isolation". In the first place we do *not* possess *all* facilities to pursue such a course. Secondly, we cannot lose sight of the fact that the rest of *the world also requires* raw materials and manufactured products from India. If the trivial industries are developed, a glorious future is in store for India since they would help to give occupation to many and at the same time satisfy the wants at home. After getting these trivial wants satisfied, India can throw in her surplus production to compete in the international market. Careful attention has to be given to the development of the special conveniences and special aptitudes *which are available in India so as to keep pace* with the rest of the industrial world. The policy of boycott will thus come in a natural manner when *Indian* tastes are so developed as to appreciate home-made articles and use them.

Thus organized reliable labour used as deposit would possess productive power capable of re-producing itself, by directing its energy to create a new utility which, in turn, leads to create other utilities. Accordingly, *organized reliable labour would be able to* absorb a good deal of surplus labour. The concentration of human energy will thus help to a greater output of goods. The national dividend would give a larger share per unit and there will also be a harmonious development of the agents of production. This increase and the fair distribution of wealth will make all the agents of production—land, labour, capital and business organization—equal.

When such federal labour banks, as suggested, come into existence, we would achieve uniformity in spite of diversity. Each labour bank *would look to the interest and welfare of* the labouring units in its jurisdiction, and further the cause of produrtion. All the banks being connected through the main banks to the central banks, the heart throbs of India would be felt through the pulses of main banks, and the economist-physicians who like to see their country's condition uplifted would be able to diagnose any defects and set them right.

Conclusion.

India is a vast country with a variety of natural resources. Her peoples are diversified in temperament *and her climates vary in* different localities. The characters of her peoples too vary. We have now to find unity *through all this diversity. It is not possible* to arrive at any uniformity as by a process of pouring molten metal into uniform moulds: hence, the necessity of local banks to meet the peculiar needs and circumstances of each locality. Although each local bank aims to give the labourers every comfort, yet each would be working towards an ideal, namely, the industrial uplift, a whole nation. Thus a standard of living and of comfort will be set up in each locality which will aim to give the greatest happiness to the depositors. This happiness would be the very weapon to use in the fight against distrust, discontent, strikes and lock-outs and *other such evils. This happiness* will also bring healing with unity on its wings. The consciousness of general happi*ness all over the land brought about by a net*work of co-operative labour investing banks, will have a much greater effect in unifying India than any number of political and social reforms. Hence, in spite of diversity, India will attain unity. Each bank would be a pearl of great value in itself, secured by the knots of main banks and threaded by the cord of fellowship. Happiness and contentment are the clasps which bind these together in and through the central bank. Such a beautiful necklace of pearls, as is now contemplated, is worthy of being worn by Mother India. Well may we conclude in Ruskin's words:—

> "There is no wealth but life; life including all its powers of love, joy, and of admiration. The country is the richest which nourishes the greatest number of notable and happy human beings; the man is richest who, having perfected the functions of his own life to the utmost, has also the widest helpful influence, both personal and by means of his possessions over the lives of others."

Mr. Justice Finlay, in a speech at Manchester, said he was struck some time ago by some observations by the Governor of Cardiff Prison, who had said that there were fewer criminals among gardeners than among any other class. This most ancient of occupations brought one most closely into touch with nature, and the Governor had expressed the view that the farther you got away from *nature, the farther one got into a highly indus*trialized society, the more numerous became the crimes.

Surely it is up to us, living as we do in a highly artificial and highly industrialized society, to see to it that those crimes, to a great extent at least promoted and produced by *that society, are, as far as we can possibly* do it, mitigated, remedied and prevented from recurring.

New Era in Pleasure Flying.

By Harry Harper,

Author of "Twenty-Five Years of Flying".

Drivers of big road motor-coaches, glancing up one day before long, may catch sight of a new competitor in the business of pleasure transport. It will be the aerial char-a-banc, thousands of feet above, carrying its tourists not just to the seaside 60 or 70 miles away, but to some continental city or spa hundreds of miles distant across the Channel. Winged *motor-coaches are now being designed* which will lift as many as 50 passengers in comfortable seats in a big saloon with large outlook windows.

It will be the speed of these flying coaches, moving through the highways of the air which will be so significant from the point of view of ultra-modern tourists. The radius of the day trip will be extended vastly. Apart from the attractions of swift, exhilarating flights to the continent, there will be opportunities such as have never been provided before of seeing a great deal in a short time within the confines of this country. Suppose an air party ascends from some big city just after breakfast. By lunch time, after passing over a wide stretch of country, they can alight at some selected point more than 200 miles away. Then, after a spell on the earth and a look round, they can reel off another flight of well over 100 miles before tea time, flying over inland or coastal scenery as the choice may be. Then after another stay on mother earth, and an inspection of local "sights", they can tuck themselves comfortably in their flying machine again and whirl back home. One air-coach tour planned for American visitors will enable them, in 5 days, to visit places of interest throughout the country which would entail more than 7 *days' travelling by any form of earth transport.*

The big aerial motor-coach will be driven by several separate engines giving it a power to fly on, without alighting, should any one of its motors go temporarily out of action. Thus forced landings will be to all intents and purposes eliminated.

Another use for very large pleasure-type *aeroplanes, fitted up with a number of seats,* will lie in their capacity to give members of the public short "joy-rides" at extremely low fees. Remarkable schemes in this direction are already being worked out.

"Tickets Please!"

Something of a sensation would be caused if a couple of people were to jump into omnibuses in London and one were to say, "Belfast, please," while the other remarked casually to the conductor, "Channel Islands, one". Yet this is what we may come to if schemes are realized which many experts now consider the *only real solution of the problem of developing* air services within the British Islands. Officially and in private, and between business interests and airway experts, this whole question is being thrashed out from every point of view. One scheme which its advocates declare the best of all is for a regular "flying omnibus" service. Thanks to their speed, these omnibuses of the air would accomplish, on an infinitely wider scale, what our motor-coaches do already on the roads, picking up air-fares and alighting with them at convenient points, and being used also—as were the old coaches of the road—for the transport here and there of urgent parcels and mails. To do something long-distance trains cannot do is declared to be the only hope for aeroplanes in a country like ours, where earth transport is already so well developed. Instead, therefore, of the comparatively infrequent departures of main-line trains, carrying large numbers of people, the air plans now taking shape are for frequent services extending over hundreds of miles, of luxurious winged omnibuses, each carrying from 25 to 30 people in a comfortable enclosed saloon, and with an aerial conductor in his compartment at the rear.

Holiday "Flips".

Flying off every hour, or perhaps every half hour, and bound from London, say, to Glasgow, the air-omnibus would have frequent landing points where it would set down and pick up passengers just like a road-bus; while its conductor would be on the look-out for signals, made by land-signs or Verey pistols, telling him that fares or parcels awaited the flying bus at the next halt ahead. Whereupon, pulling *his bell-cord, or more probably pressing* a button, he would inform the pilot that a descent was to be made. And at holiday times just picture it! Air omnibuses to everywhere—devouring distance at 100 miles an hour

taking you hundreds of miles to some lovely remote beauty spot and then wafting you back again in time for tea and the "pictures".

Aircraft in which travellers may go literally anywhere and everywhere, on land, on sea, or in the air, eating and sleeping in their machines, and being independent of any other means of transport, are now in design. One such machine experts refer to as "the yacht with wheels and wings". It runs about on land; it navigates on the surface of the water; while it also flies through the air alighting again either on land or sea.

EQUIPPED FOR ANYTHING.

This land-sea-air craft has a hull of light-weight metal upon which it floats when on the water. Above the hull are the wings which sustain the machine when in flight and which can be folded back when not in use. Below the hull, lowered into position by the movement of a lever, is the wheeled chassis on which the machine manœuvres when on land. The motors in the engine-room are in charge of a mechanic who is able to carry out any minor adjustments which may become necessary while the machine is in transit. From the pilot's cabin above the engine-room there is a signalling system which enables him to control the running of the motors. For passengers there are two cabins, one forward and the other aft. The former can be used as an observation car from which a wonderful panorama of earth, sky and sea may be viewed in comfort. The aft cabin is equipped luxuriously as a living room and can also be converted into sleeping quarters. Further aft there is accommodation for the small crew. The owner of one of these wonderful machines might use it, say, for urgent business trips. It moves through the air faster than any express train on land. He might also embark in it on a pleasure voyage, passing swiftly above the sea, and alighting and manœuvring in some harbour or river-mouth; or he might make a long flight somewhere across the land in order to reach and explore an inland lake.

THE AERIAL SNAIL.

Yet another ingenious development in aeronautics is the aeroplane which carries its own shed about with it, so that wherever it may land, even in some remote spot far from aerodromes, the pilot simply fixes up his own hangar and, if necessary, carries out in it any minor repairs the aeroplane may need. The machine which is so "self-contained" is an all-metal monoplane. The shed, which takes the form of a kind of tent with a door and two windows in it, is carried while in flight within the fuselage of the machine. When he finds it necessary to descend at some inhospitable spot, the pilot has a method of folding the wings and tail of the monoplane so that the machine occupies a very small space. Then he pulls out his portable shed and fits it neatly over the whole machine, shutting the door behind him and being inside a sort of little house in which he can sleep or shelter from the elements; and in which also—thanks to the windows—he has light enough to do any work that may be required on the machine.

Conciliation in Trade Disputes in France.

By G. V. Rajaratnam.

An ingenious Bill is to come before the French Parliament for compulsory conciliation in trade disputes that might be read with interest in India at the present moment. The Bill provides that in case of disputes of a collective character in an industrial or commercial establishment, a meeting must take place between the parties at the demand of one of them before any cessation of work occurs. If no agreement is arrived at, a second meeting must be held either spontaneously by the parties or on the written demand of the Minister of Labour. Two attempts at conciliation have been provided for before the actual cessation of work. If, however, both these attempts are unsuccessful and a stoppage occurs, a fresh meeting can take place either on the demand of one of the parties or the Ministry of Labour or the Prefect. This third meeting would be held if the party calling the meeting so demands in the presence of conciliators nominated either by agreement or by the Minister or the Prefect. The Minister may, if he pleases, send the parties before the Commission Superieure de Conciliation, composed in equal numbers, of employees chosen from among the members of the National Economic Council. If the stoppage is prolonged the Minister may, either on his own initiative or on the demand of one of the parties, prescribe a further attempt at conciliation. The Bill provides for fines to be imposed on any employee or employer who should refuse to lend himself to the attempts at conciliation provided for in the Bill.

Irrigation by Electricity.*

By Sir Alfred Chatterton.

The only section of the work of the Electrical Department that I have thought came within the scope of the inquiries delegated to me by Government is that which pertains to the distribution of power in rural areas. This is at present chiefly employed to drive small motors and pumps of which about 70 have so far been installed. There is great scope for work in this direction but if the best results are to be obtained it will be necessary to supply Mr. Forbes with very capable assistants to study the whole question of well-irrigation both as an engineering proposition to secure the most efficient plant to lift the water to the required level and as an agricultural problem to secure the maximum duty of water and the greatest value of crop from the land irrigated.

Electrical pumping is by far the most convenient method of lifting water and at the rates charged for energy in Mysore it is also the cheapest, but only when the pump is suited to the work. A standard set cannot give the best results in all and probably not even in the majority of cases and it is, therefore, desirable to consider each application of electrical energy to lifting water as one which has to be treated on its own merits. I merely wish to emphasize this point because, whilst in a factory of any kind, the cost of motive power bears but a small ratio to the cost of all the other items which are involved in a manufacturing process, in the case of lift irrigation, it is the whole cost and even if one considers the ratio which it bears to the cost of cultivation, it is always very high. It is, therefore, very important that each installation should be designed to secure as nearly as possible the maximum efficiency. Forty per cent is a good figure for the small plants which have so far been put down but with larger water supplies efficiencies ranging from 50—70 per cent should be obtained. I need not go into engineering details as to how these results can be realized as the Electrical Department is quite competent to deal with the problems which will arise. It will, however, add largely to the work and something also to the initial cost of installations but in the long run such expenditure of skill and money will be well repaid.

The ryot or cultivator needs a great deal of help when he goes in for mechanical methods of lifting water. The water flows so easily from the pipe that he is inclined to waste it, his channels are very crude and conduct the water to the spot where it is to be used with considerable loss by seepage and he should be encouraged to construct, as far as he can, permanent masonry channels, distributing the water from them by U-shaped troughs which can be made of earthenware like Mangalore tiles. It might be advantageous to direct the attention of the numerous tile factories now in the State to the urgent necessity that they should produce a cheap and serviceable trough for irrigation channels.

The cultivator generally, but not always, from practical experience has a fair idea of the capacity of his well and he knows to what extent it can be depended on at the end of the hot weather and how long it will take to fill up again. He has seldom any idea as to the increase in yield that may be obtained either by deeper excavation or by pulling in from the bottom a bore hole and then exploding at the bottom of the bore hole a considerable charge of dynamite. This operation is known as "Torpedoing" and frequently produces a very material increase in the flow of water. Most Mysore wells except in alluvial flats derive their water from springs or fissures and it is simply a matter of luck striking a really good fissure. Where it is possible records of each well should be maintained in the form of number of hours the pump has worked and the average discharge level of water at the start and at the finish with a note as to whether the level remains constant for any length of time. Such records will yield useful information as to the prospects of getting more water by deepening the well. In cases where, as in disintegrated rock, there is considerable percolation from the sides, horizontal actils run from the bottom of the well may be useful. To deal with these questions requires experience which can only be gained by prolonged observations and it is desirable that the staff of the Department should have time to give to such work and that they should be sufficiently intelligent to draw correct deductions from the data they accumulate. My experience in the Madras Presidency where I was responsible for the installation of nearly 1,000 engines and pumps was to the effect that service officers should not only be competent to do the engineering work required of them,

*A Note prepared for the Government of Mysore.

but that they should also possess a fair all-round knowledge of agricultural practice so as to be able to discuss agricultural questions with pump owners and give them advice. Intelligent, well trained young engineers find no difficulty in picking up the practical information of the kind needed as they are always out in the field and come in contact with every kind of cultivation at every stage in its course. A preliminary training on an agricultural farm is of advantage but is, by no means, essential. To a large extent I attribute the extremely slow progress of mechanical pumping to neglect to maintain in a very high state of efficiency the service system without which the ryot is very helpless.

Handloom Weaving in Madras.

By S. Subbarama Aiyar, M.A.,
Senior Lecturer in Economics, Madras Christian College.

The Government of Madras has just now issued final orders on the recommendations of the Non-Official Members of the Textile Conference which was recently called together from among the members of the Local Legislative Council with the object of concerting measures to help more effectively than hitherto the handloom weaving industry of Madras. *That this industry requires, in the present* circumstances of India, all the help that the State can render to it, is now not open to doubt.

The Committee finds, from the materials placed before it, that "the production of cotton cloth on handlooms in India has since the War increased by nearly 200 million yards per annum or nearly 20 per cent. Far from showing signs of decline the industry exhibits a remarkable vitality which encourages the hope of a better future if the industry is properly and promptly organized and placed on a commercial footing. From the figures relating to the rate and cost of production of cotton cloth on the haudloom, we find that many of the fallacies which held the field so long regarding the economic inefficiency of the handloom have been effectively exposed. In a country like India, the handloom as a cottage industry has certain advantages over the power-loom. The actual cost of production on the handloom is lower than that on the power-loom and that for the same investment the quantity of cloth produced is larger than on the power-loom. *But the price of handloom cloth when it reaches the market is at present higher by 7 to 10 per cent than the power products.* In spite of the higher price, as much as about 4 million yards of cotton cloth are produced on the handlooms of this Presidency."

This extract makes it clear that the weak *point in the business position* of the handloom weaver is the *marketing side*.

The lines of development suggested by the Textile Expert, which have the approval of the Committee, fully recognize this and contemplate an all-round attack of the problem. His scheme consists of:—

(*a*) An organization for securing yarns at a favourable rate either by direct purchase from the mills or by starting of a co-operative spinning mill or a mill worked by jail labour;

(*b*) An organization for preparing and distributing ready-made warps to the weavers which, while helping to standardize the products of the handloom, will set free the weavers' *family from the unremuuerative labour of* preparing the warp for the loom;

(*c*) Employment of two looms in place of one, with the help of the members of the weavers' family set free from the labour of warp preparation, thus increasing the output of cloth with distinct improvement in his present wage;

(*d*) An organization for taking the cloth from the weaver and marketing it for him thereby securing continuity of work for the weaver.

Besides recommending on the above lines the Committee quote with approval the views expressed by Mr. F. R. Hemingway, the author of the *Co-operative Manual*, that "there must be room for very great improvement in the economic condition of the weaver if co-operative organizations can be formed. Careful and cool study of these trades will be necessary but the thing *can be done* and there is no extravagant fancy in a mental picture of a network of weaving societies throughout the Presidency, organized into central and wholesale societies which are closely in touch with yarn and cloth trade, can get the weaver his yarn cheap, can advise him what to weave and can sell his cloth for him."

So far as State aid is concerned, "the prospect of success in improving the industry lies," says the Report, "in devising a linked organization and in co-ordinated effort of a sustained character in which the textile section of the Industries and the Co-operative Department must take part and work conjointly." Towards this end the Committee recommend the ultimate separation of the textile section from the Industries Department and constituting it into a department of its own and that meanwhile the Textile Expert be made a

Deputy Director dealing with the Textile Section alone. Further an Advisory Committee *for the Textile Section is recommended to* be appointed for advising Government in all matters relating to the improvement of the textile industry and the betterment of the weaving classes.

Among other measures the Conference recommends that the duty on all counts of yarn above 40's and the duty on gold thread should be removed, that, in the case of yarn supplied by Indian mills, it should be prescribed that they should not be below a standard strength test, and should be of the reputed count, correct length and weight and that facilities should be procured for cheap transport by rail for yarn and cloth required for the weavers' co-operative societies.

The Government Order which follows the Report accepts most of these recommenda*tions with certain modifications.* The Government is right in its view that " the crux of the weavers' problem is how to standardize the products of the looms and to effect a reduction in the price of cloth without reducing the earnings of weavers." The chief obstacle, however, is the weaver himself, with his improvident and intemperate habits. The help is to come from within but the solicitude of the Government is shown by raising the status of the Textile Expert to that of the Assistant Director of Industries (Textiles) and the creation of an Advisory Committee to help his Department to conceive and carry out measures for the upliftment of the weaving castes.

Simplified Land Transfer.

By "Scrutator".

In August 1927, the Government of Bombay directed Mr. A. Kirke Smith, Solicitor to Government (then on leave), to study the Land Transfer System and its working in England since its introduction and to submit a report to Government on the results thereof, and at the same time to advise them on the feasibility of the application of the system to the Town and Island of Bombay. Mr. Kirke Smith's report, which has just been issued by the Government of Bombay, forms interesting reading. After discussing the Land Transfer System in England he says, " the result of the establishment of a register of land by the State and the transfer of land on that register is to set up a machinery for the purchase and sale of land similar to that of the purchase and sale of stocks and shares. The chief asset of a State is considered to be the land of the State and this system provides that land may circulate among its subjects speedily, simply, cheaply and with State guaranteed safety. The old fashioned abstract of title is no longer required, nor the constant and reiterated inspection and investigation of a number of old deeds and documents. The purchaser requires only to satisfy himself that his vendor is in fact the person entered on the register as the owner of the land. The forms are simple and can be readily understood by the laity and the old cumbersome conveyances and other deeds of assurance are done away with. The fees payable to the Registry as also to the Solicitors acting for the parties are far less than payable by the parties under the old conveyancing system. The legal ownership, therefore, of land so registered is by this system enabled to pass safely, cheaply and readily from hand to hand. With the old abstracts of Title in England and inspection of documents there was no finality, as they were copied and recopied, investigated and reinvestigated time after time. The labour involved in this is highly skilled and very costly, and the purchaser even then does not obtain any guarantee that the title to the land is in order, that no possible defect may hereafter be found to have been overlooked."

The Register consists of three parts : (1) the Property Register containing an identification of the land, (2) the Proprietorship Register giving the name of the owner, (3) the Charges Register in which are entered all charges against the land, mortgages and other incumbrances so that these again can be seen at a glance.

In Bombay at present every transaction is carried out by a privately prepared Deed of Assurance—be it conveyance, mortgage, lease or assignment. The transfer on the existing Register is recorded on production of the Conveyance or Assignment and the incumbrances on production of the mortgages. Deeds follow common forms which are obtained almost exclusively from Key and Elphinstone's or Mr. Prideaux's famous *Conveyancing Precedents* as in use in England. Turning to any series of deeds dealing with land it will be found that to a great extent the deeds are constant repetitions of each other. The introduction of a State-conducted Land Transfer System will do

away with all these deeds. The time and labour involved in carrying through any transaction at present not only entails great expense to the parties but also prohibits speedy dealing with land, and the process is interminable. On every transaction the prior title of the vendor has to be enquired into. This investigation is a necessary though lengthy process, and considerable technical knowledge and skill is required. If the Land Registration System is introduced, the title to the land and all dealings with the land appear on the register, and on the register alone can the transaction be carried out. In certain cases no doubt there would have to be documents outside the register, defining the rights and obligations as between the parties, but the title in the immoveable property itself must be recorded on the register. If a register of land is maintained somewhat similar to that of a register of stock in a joint-stock company then the transfer of immoveable property should be able to be carried out almost with as much ease and safety as a transfer of stocks and shares.

An application for registration with an absolute title would have to be made compulsory upon every transaction of a sale of immoveable property. Rules as to the requirements to be complied with upon such an application would have to be drawn up, and these would require the submission to the Land Registrar of all deeds and documents showing the title to the land. Once accepted by the Registrar and the title to the land entered on the register the registered owner would have no more use for such deeds and documents. These should be retained in the Registry, but all subsequent dealings with the property will be on the register and without reference to prior title. As regards the Hindu joint family the head of the family would be recorded as the proprietor in such capacity and any member of the family who might fear that his or her interest might be prejudiced would file a caution or prohibition requiring notice to him or her of any transfer or application to deal with the land. It must be borne in mind that all mortgages, incumbrances, easements or other interests affecting the land will be shown on the register.

The Land Registration System would be no more public than the present system. As in London, no person would be allowed to inspect the register except the registered proprietor or a person bearing his authority to do so. "I mention this point," says the writer, "as it may be brought forward against the introduction of the system that it will mean official interference in the transfer of immoveable property and more publicity."

The Land Registry Office, as in London would be self-supporting, that is to say, the fees payable on transactions recorded will be so adjusted that revenue meets expenditure. The scale of fees payable to the Land Registry would be settled and the fees payable to the solicitors for carrying through the transactions would also be on a fixed scale. Both would be *ad valorem* on the value of the transactions and unalterable, and so the parties are at once able to ascertain what will be the expense to them of carrying through and recording any transaction contemplated. If a solicitor is not engaged, no legal charges will be payable, and there would only be the Land Registry fees.

The main saving of expense to the parties occurs in the reduction in the legal costs. These are reduced because the time, trouble and skill necessary to apply in an investigation of title, preparation and completion of a conveyance with the many side enquiries which have to be followed are eliminated.

Land and houses in Bombay are a popular form of investment, and since one, if not the principal, object of the land transfer system is to facilitate the speedy, cheap and safe transfer of land and houses, it may be anticipated that the registration system will meet with popular approval. The system is of great benefit in the development of large building estates, since each plot quickly acquires a title of its own, and the purchaser or lessee is not concerned with prior title or dealings. The Bombay Port Trust, the City of Bombay Improvement Trust and the Municipality of Bombay as well as Government are instances of public bodies with this class of holding. Good leasehold title on these estates will be as good as absolute title, and in fact may be registered as such, limited for the period of the years of the lease and subject to the covenants which will be shown on the register.

The report has been referred to various authorities and bodies for opinion and Government would be glad to have an expression of public opinion generally on the subject. We think that the system described by Mr. Kirk is a vast improvement on the existing one, which involves endless search and often, all to no purpose. The need for some simple system of the kind suggested by him seems a necessity not only in growing Presidency towns, but also nearer home at Bangalore and Mysore, where land transfer is becoming increasingly a matter of investment.

Lands under Lloyd Barrage.

By " Agricola ".

From various notices in the Press it appears that some public anxiety is beginning to be felt regarding the disposal by the Bombay Government of the waste lands which will be irrigated by the Lloyd Barrage Scheme in Sind. The disposal of these lands will be spread over a long period of years during which Government's land sale policy must be kept closely correlated with the needs of a changing financial situation. Moreover, as the general features of this scheme are in some important respects markedly different from those of other large irrigation schemes with which the public is familiar, it is desirable to preface this preliminary statement of Government's policy with some descriptive remarks of a general character.

The Barrage scheme was primarily undertaken not with the view of bringing into cultivation large areas of Government waste lands, but with a view to making more secure the precarious conditions under which agriculture is at present carried on in areas already occupied and so increasing the cultivation and improving the general condition of the existing landholders and cultivators in the tract. That being so, there is a marked absence of the large areas of hitherto uncultivated waste which form a familiar feature of the Punjab irrigation schemes. Out of the gross area of 7½ million acres commanded by the scheme, the greater part is not Government land, but is already in the occupation of private persons, and only some 1½ million acres, after uncultivable land and land to be reserved for public purposes has been deducted, are available for the purpose of distribution. This vacant land is very much fragmented. There are some 3,000 villages in the whole tract, and in almost every one of these the land is partly occupied and partly unoccupied, the unoccupied being distributed among the occupied land in blocks of irregular shape varying in size from a few acres to a few hundred acres.

Secondly, the area under command is at present mostly settled on existing inundation canals and under the current survey is divided into survey numbers of irregular size and shape. For the purposes of the control of water under the scheme it has been found necessary to have the bulk of the area re-surveyed into rectangles of uniform shape and size, along the sides of which the new water-courses will generally be aligned. It is hoped that eventually the existing landholders in the area will recognize the advantages to them of having their lands rectangulated wherever possible, but it is likely that many years will elapse before the bulk of the occupied areas are rectangulated. All the larger blocks of Government unoccupied land, however, are being rectangulated by a special staff under the Revenue Officer, and already many progressive landholders are requesting or consenting to have their holdings rectangulated. The rectangulation operations were commenced in 1927 and so far as concerns the larger blocks of unoccupied land are being pushed on to completion as rapidly as possible. It will readily be seen that it is not advisable to give out new lands in the larger blocks before the rectangulation operations have been completed and the new water-courses aligned.

Thirdly, the Barrage is not expected to be completed before the spring of 1932 so that water will not be available for the new canals until the inundation season of that year.

These simple facts at once lead to certain conclusions. New colonists cannot be settled on the land long in advance of the date when water will be available; the failure to realize this elementary fact led to much avoidable distress in some of the earlier Punjab schemes. There is much preliminary work to be done in the larger unoccupied areas before these lands can be disposed of profitably to Government and to the purchasers. Since most of the area contains a considerable nucleus of zamindars and cultivating owners already depending on agriculture for their livelihood, it is necessary to aim at the orderly development, so far as possible, of the whole tract at one and the same time. It is not possible to deal with the Barrage area piecemeal, deferring the development of certain sections until that of others is practically complete. Government are, however, in a position at this stage to give some general indications of the policy which they intend to adopt in the disposal of waste lands, while reserving to themselves full liberty to change that policy in any directions which experience or changing circumstances may indicate. The various classes of grants to be

made may be conveniently considered under the following heads :—

Fallow-forfeited and Mohag Grants.—Government have already made clear their opinion that the indigenous population have the first claim to consideration in the development of the area, and the Royal Commission on Agriculture has recently expressed the same view. Details regarding the decision to grant three and a half lakhs of acres to existing landholders at the nominal rate of Rs. 15 per acre have been published and discussed in the Legislative Council, and are now sufficiently familiar to all whom they affect to render their further elaboration unnecessary. Since Government are undertaking a capital expdeniture of over Rs. 30 per acre on this very land and on every other acre already occupied, the magnitude of the financial concession being made to the existing landholders in the tract will be readily understood. Government consider that the resources of these landholders can best be employed and will be fully employed, for many years to come in bringing their lands under the more intensive cultivation which will be possible under Barrage irrigation.

Peasant Grants—Although it is not possible to settle peasants on the land before cultivation operations can be nndertaken, the terms on which Government are prepared to grant land to peasants can at this stage be indicated. When the Jamrao was colonized thirty years ago, grants for both Sindhi and Punjabi peasants were given free of malkano. In the Punjab to-day fairly heavy recoveries are made from peasants. The Punjab peasant is required to pay Rs. 3 per allotted acre for the first ten years, and thereafter has the option of paying Rs. 5 per year for ever without acquiring proprietary rights, or of paying heavier annual payments over a period which may extend to forty years for the purpose of acquiring proprietary rights, according to the following scale:

Number of years for which payment is made.	Payment per acre. Rs.
1	100
or 2	55
or 5	24
or 10	13
or 15	10
or 20	9
or 25	8
or 30	7
or 40	6

Government can no longer afford, nor do they consider it necessary, to give land to peasants free. The hari whose status is raised to that of a peasant proprietor has his income largely increased, and there is no reason why he should not pay a reasonable share of that increase to Government by way of instalments for the purchase of his land. But in the present conditions of Sind agriculture, Government do not think it desirable to attempt to levy the prices which the Punjabi peasant willingly pays, and they have therefore empowered the Revenue Officer to make grant to Sindhi peasants on the following conditions. The peasants will be tenants-at-will for the first five years, during which they will pay Rs. 3 per annum per allotted acre and will be required to comply with certain conditions framed with a view to ensuring that they actually live on or near their land and bring it under cultivation. Thereafter, they will be required to pay malkano equivalent to half the amount paid by peasants in the Punjab, according to the following scale :—

No. of years.	Annual payment per acre. Rs. A.
15	5 0
or 20	4 8
or 25	4 0
or 30	3 8
or 40	3 0

It will be understood that the ordinary land revenue will be recovered in addition to these payments of malkano. The peasants will thus be able to complete payment for their holdings within a period ranging, at their option, from 20 to 45 years. It is not desirable to permit payment within a shorter period since the object is to get the peasants settled on the land and not to encourage them in the speculative selling of their holdings. The present value of these payments is about Rs. 50 per acre. Government consider that peasants should be settled only in land of good quality and that a grant should ordinarily be about 16 acres and never more than 24 acres. With the intensities of cultivation that will be possible, and must be encouraged, under the Barrage, this will admit of as much annual cultivation as an ordinary *hari* with the assistance of other members of his family can cope with. For the present, Government have authorized the Revenue Officer to set aside 50,000 acres for the purpose of peasant grants. This is enough for 3,000 peasants and is a sufficient commitment for Government to make at this stage. The exercise of due discrimination in the selection of these peasants is a matter of difficulty and more than this number can hardly be dealt with before the Barrage canals are actually flowing, when the matter can again be reviewed.

It is not proposed at present to give peasant grants at concession rates to other than Sindhis (including Tharis). The Punjabi peasant is sufficiently alive to the value of perennial irrigation and will be able to buy land in the ordinary way at full rates provided that he is given reasonable opportunities to purchase small holdings and pay for them by instalments. An exception will be made in the case of Punjabi *abadgars* already settled in Sind in respect of areas mainly colonized by Punjabis. Apart from the Punjabi, Government are not at present aware of any other class superior to the ordinary Sindhi cultivator that is likely to be attracted to cultivation in Sind, but they are prepared to consider sympathetically claims that may be advanced on behalf of such classes. The Revenue Officer has also been authorized to consider applications from co-operative societies or other organized groups for grants on terms not more generous than those outlined above.

Military Grants.—Government consider that no concessions of a financial kind should be made at the expense of the Government of Bombay on the grounds of military service. Subject to the fulfilment of a few definite commitments made before the Barrage scheme was sanctioned, the Revenue Officer is authorized to make grants to military officers, either retired or serving, only on terms of full payment for the land either by themselves or by the Army Department on their behalf. It may, however, be advisable to give special consideration to the length of time over which payment by instalments should be permitted in the case of men who buy while they are in service lands which they will not be able to take up for some years to come.

Sales at Full Rates.—Having regard to the heavy capital cost of the Barrage, it is necessary to obtain for the bulk of the unoccupied land the best prices that will be procurable from time to time. Government are of opinion that good prices cannot be expected if land is sold long before water is available in the canals and they do not therefore contemplate resort to sales on any considerable scale more than a year before the canals are open and flowing. Sales by open auction will be the rule and these will be open to all bidders, whether from this or other provinces. Payment by instalments will be permitted, the general rule being 10 per cent down and the balance in five equated annual instalments of principal with interest at 6½ per cent. The Revenue Officer will, however, be permitted to reduce or increase the number of instalments in cases where for special reasons he considers it desirable to do so. These are the terms usually given in the Punjab, except that the rate of interest charged there is 8 per cent. Government consider, however, that the lower rate of interest proposed leaves a sufficient margin to protect them from loss; the matter would, however, have to be reconsidered if any considerable rise in the prevailing rates of interest should take place.

Limited Auctions and Sales at Fixed Prices.—While, however, Government consider that sales by auction should be the rule, everyone familiar with the Barrage tract will recognize that there is, in the aggregate, a very large area of land for which auction sales would not be advisable or even practicable. In these cases the Revenue Officer is authorized to sell lands at a fair price fixed by him or to hold auctions confined to a limited class of bidders. Examples of the sort of cases referred to are lands which are equally in the *mohag* of several people and of which the sale to a stranger would consequently be inadvisable, and lands in small scattered parcels to which no particular person has a valid claim but which could not be expected to attract any considerable number of bidders at an auction. In such cases a standing offer to sell a fixed price may be more profitable to Government. The same scheme of payment by instalments will apply here as to sales by auction.

Extraordinary Grants.—It is anticipated that the Revenue Officer will receive a certain number of applications for large grants for special purposes such as cattle breeding, fruit farming, etc., generally involving some concession in the matter of price. The history of such grants in other provinces suggests that careful scrutiny of such proposals is necessary if the public revenues are to be adequately safeguarded. Government have therefore passed orders that the Revenue Officer should not sanction any application which involves either the grant of more than 500 acres or any special concession in the matter of price without the consent of Government.

Leases.—Over one lakh of acres in the Barrage area are at present held on temporary leases either for one year or for five years, and some of these leases have been renewed in the names of the present holders for fifteen years or more. In some cases definite promises were made that the land would be permanently granted when the Barrage should come into operation, and in some cases lands were granted on the express understanding that no such

claim would be considered valid. The circumstances of each grant will have to be examined, and in many cases an option to purchase will have to be given to the present owner. These lands are often very valuable since they have a water supply already available, and Government do not think that the fact that tenants have had a free lease for several years can be admitted as a valid claim to further concessions in the matter of price. The leases are now being renewed only on the condition that the holders will agree to take the lands up permanently at prices fixed by the Revenue Officer when they are called on to do so. It is likely that an entended period of instalment payments for these lands will, in many cases, be necessary.

The Revenue Officer has been authorized to lease for a period of years lands which are not yet ripe for sale. These leases may be for periods varying from two to ten years and may be sold either by auction or by tender or at rates fixed by the Revenue Officer. It is expected that the sale of these leases, which are now a regular feature of colonization work in other provinces, will bring in considerable sums and will materially assist the general development of the area by admitting of the temporary cultivation of lands for which water will be available but which in other respects are not ready for final disposal.

Grants to other Departments.—The Agricultural Department has indicated that it will require land for seed farms in several localities and the Forest Department will also require certain lands. A considerable expansion of the activities of both these departments may indeed be expected and the recent recommendations of the Royal Commission on Agriculture on the subject are now under consideration by the officers of Government.

In conclusion, Government wish to indicate the necessarily tentative nature of these proposals. The total area for disposal is very large and sales are likely to be spread over a period of not less than twenty years, during the course of which it is certain that some of the proposals must undergo modification in the light of the changing financial situation, actual experience and public criticism. The fact that for a very considerable period Government will retain large areas of disposable land is one of the factors making for financial security. The proposals must, therefore, be regarded rather as a general indication of the lines along which development can, for the present, proceed than as an irrevocable commitment to a particular policy.

Flora Annie Steel.

Although to the bulk of the English-reading public, Mrs. Flora Annie Steel, whose death is reported, is chiefly known as a novelist of no mean merit who has presented interestingly many pictures of life in India, in this country she has more claim to fame than that. She was a pioneer of female education in India. During the twenty-two years that she lived in India, she entered into the life of the country and, without the self-advertisement and placarding which seems so necessary to the reformers of these days, put female education in the Punjab on the firm footing that has put that province in the forefront in the matter of education of women. It is now nearly sixty years since Mrs. Steel started the first Municipal schools for girls in the Punjab. As the only woman outside the missions who could write and speak in the three vernaculars of the province, she was appointed Honorary Inspectress of the various Government and aided schools in the Punjab and she carried out many important reforms. She was a valued member of the Indian Educational Board for many years. One of her first reforms was to stop the payment to scholars which then obtained in various schools. In addition, Mrs. Steel compiled several specially useful text-books for use in the schools. As a novelist, Mrs. Flora Annie Steel published some twenty works on India, and, in addition, an historical work of considerable merit—"India through the Ages". Her first literary success was "The Potter's Thumb," a powerfully written, dramatic story, revealing deep knowledge of Indian life and character. This book brought her instant recognition as a novelist of distinction. Although over eighty years of age when she died, Mrs. Flora Annie Steel retained her interest in India, and in education, especially of Indian women—for whom she had great regard and sympathy—up to the end. She was especially keen on the use of the cinema as a more speedy medium than books of instruction in the conditions peculiar to the education of women and girls in India, and it is through some of her suggestions that a certain amount of instruction is now given in girls' schools and training colleges by means of lantern slides.

Gleanings of Economic Interest.

By G. V. Rajaratnam.

Consultations have concluded between the delegation of Economic Council of the League of Nations and experts from countries interested in sugar industry. The majority of the atter desire the stabilization of production for 3 or 4 years and efforts to increase consumption of sugar regarding which an agreement between producers is essential. It is predicted that further consultations would occur at least in connection with the production of beet, but the problem could not be solved by the action of a single country.

India's Foreign Trade in March.

General business conditions show a continued increasingly favourable picture. The total imports of private merchandise during March amounted to Rs. 22.18 lakhs while the total exports including re-exports exceeded Rs. 31.91 lakhs. Net imports of private treasure during the month under report were Rs. 1.16 lakhs and total visible balance of trade in merchandise and treasure was Rs. 5.69 lakhs in favour of this country. The balance of remittance funds was *minus* Rs. 5 24 lakhs.

The Indian Lac Association.

The above Assoc ation has established a first class research institution near Ranchi to make investigation into the lac industry in India. The institution has made arrangements for the study of technical problems connected with the ndustry.

Swiss School Banks.

Mrs. Sudhindra Bose writing in the *Modern Review* declares that Swiss schools take great care to teach their students to be thrifty. Almost every school has a school bank. Each child on entering the school is given a bank book with his own name on it. Anyone may deposit money for the child, but the child only can withdraw it. In order to make the saving effective, the school bank pays interest on deposits just as any regular bank does, 3 per cent. The school banking system develops the habits of saving, keeps the pupil from spending cash unnecessarily and teaches him the value of money.

A Tanning Mystery Solved.

Since the dawn of history hides have been put through a process of lime treatment, but what really caused the unhairing of hides and skins in a solution of milk of lime was never clearly understood. Exhaustive tests carried on at a leather research laboratory prove conclusively that the unhairing action of lime is due to the production of methylamine in the solution; and that, by the addition of methylamine in a fresh lime solution, the lime required to loosen the hair can be considerably shortened. Furthermore, the quantity of lime usually required for unhairing hides can be reduced measurably by the use of methylamine and, in consequence, the amount of waste lime sludge is reduced to a minimum. This is an important contribution to the problem of industrial waste disposal.

Correct Use of Different Manures.

Dr. Anstead advises that chemical manures should not be used alone but should be used in conjunction with organic manures such as farmyard manure and green leaves. Bone-meal could, with advantage, be used with green leaves but bone-meal is becoming more expensive as it is largely exported out of the country and the attempts to stop or at least restrict the export have all been unsuccessful. For an acre of land, the use of 20 cart-loads of cattle manure is general. If instead of this six cart-loads of cattle manure were used with 40 pounds of sulphate of ammonia and 1 cwt. of superphosphate there would be a substantial saving of expenditure and the yield per acre would be increased.

"Pure Strain" Paddy.

The Madras Agricultural Bulletin describes the steps taken to provide improved seed of varieties peculiar to Malabar and South Canara. The principal method of improvement to be adopted is that practised in all paddy breeding countries. This consists in an initial selection of heavy-yielding single plants, from which strains are raised and rigorously compared one with the other, the best one being eventually multiplied as pure Link Bulk. This method of selection, which takes a minimum of 5 years to complete, is rendered possible by the fact that the average sample of seed from a ryot's field contains plants of various types, many of which are of low-yielding type and the presence of which depresses the yield of the whole. The mere elimination of these plants would effect an improvement but Pure Line Selection goes further than this in that it selects the best of the heavy-yielding type only and propagates this as a Pure Strain.

Economics in the West.

The Gold Standard in 1929.

London, 31*st May* 1929.—The period since the raising of the Bank of England discount rate has been rich in gold movements which, quite apart from their importance to the individual countries concerned, are highly significant as throwing light on the inter-relations between the world's money and capital markets and on the working of the post-war machinery of the gold standard.

The objects in view in raising the Bank rate on February 7 were twofold. The increase was aimed, first, at a strengthening of the external value of sterling, particularly in terms of dollars, and secondly, at promoting additions to the gold stock, which had actually declined to the hallowed Cunliffe minimum of £150 millions. The twin objectives have both been attained to a limited degree. The flow of liquid funds to New York having been checked, the value of sterling improved, and, while no marked or consistent appreciation has occurred, yet the exchange has hovered conveniently above the gold export point. As a result the outflow of gold ceased, while the Bank, by bidding in the bullion market above its statutory buying price, has since secured the great bulk, after allowing for trade demands, of the South African arrivals of gold. The pre-war idea, however, of a rise in Bank rate prompting, almost necessarily, an inflow of gold from other monetary centres has again been demonstrated to be entirely inapplicable to post-war conditions, for little if any gold has flowed in as the result of arbitrage operations. Thus we find that between February 7 and April 24 the Bank, according to its daily bullion bulletins, bought on all accounts about £7¾ millions, while its sales aggregated about £1½ millions. Deducting from both figures the amounts involved in earmarking and releasing operations, the purchases amounted to £6½ millions and sales to £½ million, giving a net addition, apart from a small excess of releases, of £6 millions to the gold stock. Of the entire purchases no less than £4¾ millions are traceable to the weekly sales of South African bullion, the sums dealt with on the market aggregating £6¼ millions, while a further £⅛ million of the Bank's receipts consisted of sovereigns from South Africa.

Clearly, then, very little of the gold inflow needs to be accounted for otherwise than by reference to London's position as the primary market for the world's principal area of new gold production. With regard to this small balance, it appears from Board of Trade statistics and the returns of the Netherlands Bank that about £1 million of the Bank of England's acquisitions came from Holland. For some time past, under the influence of external depreciation of the florin, the exchange position of the Netherlands Bank had been weakening. Its holding of foreign bills fell from fl.198 millions on February 11 to fl.29 millions on April 8. In face of this movement and in order to have an immediate command over foreign balances, the Bank appears to have shipped gold to London. Thus between March 11 and 18, while the total gold holding remained unchanged, the amount held abroad grew from nothing to fl.24 millions. During the ensuing week fl.12 millions of the gold abroad was disposed of, and March 25 was the date when the Bank of England purchase of nearly £1 million was recorded. In the next week the total gold stock, which so far had fallen by fl.12 millions, was again unchanged, but the amount held abroad was increased by a further fl.12 millions, restoring the external stock to fl.24 millions. It may thus be presumed that about £2 millions of Dutch gold is lying in London as an outpost to the home resources. Meanwhile the Netherlands Bank, on March 25, raised its discount rate to the same figure as that of the Bank of England, and in the three weeks to April 22, while the gold stock was unchanged, the holding of foreign bills first fell slightly and then increased from fl.29 millions to fl.79 millions.

The gold secured by the Bank of England over and above that obtained from South Africa is thus seen to have flowed in as an incident to the needs of the Netherlands Bank, though possibly these needs were an indirect result of the rise in the English Bank rate. Consequently it may be said that the increase in the rate has had only a limited, however desirable, effect. It is interesting to see, moreover, that the principal cause of the rise in the Bank rate—the high price of money in New York—was the primary cause also of the addition of £1 million of Dutch metal to the Bank of England's gold stock.

It is when we come to consider the Reichsbank's operations, however, that the most instructive facts relating to recent gold movements are to be discovered. For some time past the Reichsmark has been continuously

weak in terms of dollars, and this condition has led to important changes in the position of the Reichsbank, which are perhaps best discerned in the following table showing some of the items in the Bank's return:—

(millions of Reichsmarks)

	Gold		Exchange
	At home.	Abroad.	reserve.
February 7 ..	2,643	86	110
" 28 ..	2,643	86	90
March 7 ..	2,610	73	128
April 15 ..	2,276	154	24
" 23 ..	1,016	163	40

The story of the changes in the Reichsbank's position over the period covered by the figures began with a considerable decline in the exchange reserve. The next step was the sale of gold in New York. The stock already lying in that centre was drawn on to some extent, but in addition a portion of the home gold reserve was shipped across the water, and the exchange reserve was augmented out of the proceeds of the sale.

The shipments to America, however, do not account for the whole of the decline in the internal gold holding. The supplementary explanation of the heavy fall brings to light an .ngenious form of central bank co-operation. It so happened that the Bank of France, having argo gold stocks in New York, wished to re-)atriate part of its holdings. Accordingly, as ar as can be gathered from official and other ources, gold on the eastern side of the Atlantic *ras moved from the Reichsbank to Paris.* /hile earmarked gold in New York was trans-erred from the ownership of the Bank of 'rance to the account of the Reichsbank. 'hus the Reichsbank was able to augment its xternal stock of gold at much lower costs for ransportation than were involved in shipments o America, while the Bank of France in effect noved gold from across the Atlantic into its wn vaults for nothing. A similar arrange-ient appears to have been made between the ;eichsbank and the National Bank of Belgium. he Reichsbank, as will be deduced from the ıble, *disposed of a large part of the gold thus* :quired, some of it, to judge from the latest ıturns, going back to the ownership of the ank of France. Meanwhile the German stitution was forced to surrender still further ıantities of its exchange reserve. As a con-quence of these developments the Reichs-ınk, somewhat in arrears of expectations, ,ised its official discount rate from 6½ to 7½ ır cent on April 25.

The operations here outlined are significant om several points of view. First, it may be ked why the German exchange has been so weak that the greater part of the gold acquired by the Reichsbank last year, largely from London, has been surrendered. The answer would seem to be that the ability to transfer under the Dawes plan is now being plainly revealed as having been based upon the free inflow of funds, mainly from America, to Germany Conditions in New York having severely restrained, if not entirely dammed, *this flow, pressure on the exchange has become* intense. Consequently, the immediate geographical centre of the causes of reichsmark depreciation is the same as of the weakness of sterling and the guilder. The nature of the causes, however, is different, for while the high money rates in the United States promoted an outflow of funds from England and Holland to America, they reacted on Germany by stemming the cumulative inflow of funds from America which had gone on ever since the issue of the Dawes loan. To an extent, therefore, the weakness of the reichsmark serves a useful purpose as a *public and obvious revelation of a hitherto* insufficiently recognized state of affairs.

But secondly, it must be noticed that the disposal of Reichsbank gold has not taken place on private initiative. The Reichsbank is under no legal obligation to redeem its notes in gold, and so far it has not voluntarily put such an obligation into practice. The sales have taken place at the instance of the Reichsbank itself, and in this respect they are in the same category as the similar operations of the Netherlands Bank. These facts reinforce the conclusion, which recent monetary history on the continent had already made apparent, that central banking practice is taking the form more and more of active intervention in exchange and monetary conditions. In England, while gold movements are still undertaken largely on private initiative, the central bank actively intervenes in the second of these two directions, the control of domestic monetary conditions by open market policy. It is now becoming more and more the practice, however, for central banks themselves to undertake gold movements rather than to leave the exchange market to be influenced by gold exports or imports solely on private account. For this reason, as well as for others which have been cited from time to time, it is amazing to find it frequently asserted, as a fact which requires no defence, that one of the advantages of the gold standard is its automatic character.

In addition, however, the movements indicate once more the enormous potentialities of central bank co-operation. In the special case we have dealt with more particularly the

co-operation took the form of a mutually convenient arrangement by which two banks saved expense. Co-operative action, however, as some past experience has shown, need not be confined to occasions when mere costs of operation are concerned. The scope of such action is far broader than that: it extends, just as the domestic sphere of central bank action, to the *general interests of economic life. The mutual* convenience of co-operation in particular circumstances should be supplemented by consideration of community welfare, even where immediate central bank interests are not directly concerned. The admitted disinterestedness of central bank policy should cover the international as well as the domestic field. It *is easy to get men to work together for their* common self-interests, but a higher standard of morality demands co-operation for the benefit of a far wider constituency. Existing conditions in the world's money markets and the outlook for world prices present an occasion for just such disinterested international effort on the part of the leading central banks.

The Budget for 1929-30.

Mr. Churchill's fifth successive budget, opened on April 15, was by comparison with his first and fourth undeniably dull. The first brought with it the return to the gold standard, a scaling down of super-tax and a reduction in income-tax, the last of which the Chancellor has just publicly regretted in view of subsequent events. The fourth brought the scheme of rating relief, the new accounting system, the fixed debt charge and the petrol duty. Set against announcements so important or spectacular as these the *proposals contained in the* recent budget are thrust into the shade. This, it should be added, constitutes in itself no criticism of the budget, for, just as the best men are often a little dull, so the best budgets are by no means always brilliant.

During the past financial year large operations were again necessarily undertaken in connection with the debt. The sinking fund fell short of anticipations, only £57½ millions being available for that purpose, as against the estimate of £69 millions. All but £5½ millions of the sum allocated was swallowed up by statutory sinking funds. Debt repayments, after allowing for conversion operations, included £130 millions of National War Bonds, £27 millions of Treasury Bonds and £3 millions of other debt. The funds for this purpose were provided as to £113 millions by the issue of new Treasury Bonds and as to the balance by increasing the floating debt. It should perhaps be explained that the term "deadweight debt" includes all the State liabilities in respect of which interest and management costs are met out of the fixed debt charge; it excludes all other capital liabilities of the State, actual or contingent, while at the same time it makes no allowance for State assets.

It will be seen that in the past year, although £57½ millions was available for debt repay*ment, the net deadweight debt declined by only* £27 millions, the difference being due to the exercise, by holders of existing securities, of options to convert into other loans at a discount. As Mr. Churchill pointed out, however, very truly, a more important consideration than the nominal amount of the debt is the interest charge. In this connection some valuable figures, covering the past four years, were given in the budget speech. According to this statement, over £1,100 millions of debt, apart from floating debt, fell due for payment during that period. With one exception, all the conversion operations which these maturities involved have been effected at a saving in interest, the net total amounting to £1¼ millions a year. Meanwhile the operation of the sinking fund has effected a reduction of £9¾ millions a year, making a total saving in interest of £11 millions a year in all. As will be seen, however, from a later table, the total interest and management charges have fallen scarcely at all. In 1924-25 they were £312 millions; in 1928-29 they were £311½ millions. This unfortunate result is attributable, first, to heavy savings certificate encashments, which, under a proper system of accounting, would not place an un*duly heavy burden on any one year, and second*ly to unexpectedly high money rates, which increased the cost of the floating debt.

The total ordinary expenditure is estimated at considerably more in the current year than *in the last, the increase being due to* Exchequer contributions under the general scheme of rating relief and reform announced a year ago. These outgoings, estimated at £15½ millions, are expected to be fully covered by the yield of the petrol duty, so that the rating relief suspense account will not need to be drawn on for this purpose. It seems not at all unlikely, however, that on at least one item the estimates will prove to be too low. The item referred to is debt interest and management which, for some reason never satisfactorily explained, has been in the past five years consistently under-estimated. The following table gives the five years' record very briefly :—

Interest and management charges, estimated and actual.
(£000 omitted).

Year to March 31.		Budget estimate	Actual	Excess of actual over estimate.	Average Bank rate %
1925	..	305,000	312,161	7,161	4 1/16
1926	..	305,000	308,229	3,229	4¾
1927	..	304,000	318,584	14,584	5
1928	..	305,000	313,816	8,816	4½
1929	..	304,000	311,491	7,491	4 11/16
Total for 5 years		1,523,000	1,564,281	41,281	
1930	..	304,600		—	

It will be seen that the estimates of interest and management charges for each of the last five years, as well as for the current year, have been regularly between £304 and £305 millions, whereas actual outgoings have fluctuated between £308¼ and £318½ millions. The falsifications of estimates are attributable to unexpectedly large encashments of savings certificates and variations in rates payable on the floating debt. The highest average Bank rate during the five years past was 5 per cent for 1926-27; we now have a 5½ per cent Bank rate. Unless, therefore, a heavy fall takes place in encashments of savings certificates, or unless Sir Robert Horne's prediction of a decline in money rates is fulfilled so amply as to render the standard of 4 per cent applicable to the current year, another addition to the excess of actual over estimated expenditure on interest seems likely. The estimate of £304⅗ millions for the year leaves £50⅖ *millions of the annual* fixed debt charge available for sinking fund, a sum which, even if realized, will be insufficient to meet the statutory charges assuming that these remain at the level reached last year. A significant fact in this connection is that during the third week of the current year provision was made for meeting out of borrowings a sum of nearly £2 millions required for the War Loan depreciation fund, previously covered out of the sinking fund appropriation. Clearly, then, should the interest record of the last five years be maintained, the chances of the fulfilment of the actuarial forecast—based on a 4 per cent rate—that the entire debt would be extinguished in fifty years will again be lessened.

One of the Chancellor's most warmly welcomed announcements was that the Government's *rating relief proposals for agriculture* were to be applied as from April 1 instead of October 1, as originally intended. The cost, estimated at £2¼ millions, is to be borne out of the rating relief suspense account and, therefore is not included in the above table of expenditure.

An examination of the estimates of ordinary revenue suggests that some of the estimates at least do not err on the side of modesty. This applies particularly to super-tax, stamp and estate duties, *the last of which have yielded* unexpectedly large sums in each of the past two years. It has yet to be shown that the death rate among millionaires is higher, as a regular fact, than among poorer men of similar ages.

The changes in taxation proposed in the budget speech are estimated to have, with two or three exceptions, comparatively small effect on the revenue. The most important step was the immediate repeal of the customs duties on tea, which have enjoyed a life far surpassing in length the longest living memory. The cost of this concession was placed at about £6¼ millions in this and subsequent years. Several changes were announced under the heading of excise duties. The tax on betting turnover was to be abolished forthwith, but the loss to the revenue was to be balanced to some extent by other changes in the system of betting duties, the net cost being less than £1 million per annum. The duties on railway passenger fares were to be at once repealed, at an almost negligible annual cost, after being in force for nearly a hundred years, *the condition being* that the capital value of the relief should be spent by the railways on modernization and development. The licence duties on brewers, distillers and tobacco manufacturers were to be raised in order to produce about half-a-million a year, the equivalent of the benefit to be received by them in the shape of rating relief. Finally, liquor retailers' on-licences were to be reduced at an annual cost of about £1 million. Some minor changes under heads other than customs and excise brought the total estimated loss of revenue this year and in a full year to about £8 millions. The difference between *estimated revenue and expenditure* was thus reduced to about £4 millions, and once again the realized surplus is to be carried to the rating relief suspense account.

It is encouraging to learn that the Chancellor views the future with optimism. "I feel," he said, at the conclusion of his budget speech, "that the corner in our economic fortunes may well now have been turned . . . . . Reviving trade, *lower unemployment, expanding* revenues, cheaper money, more favourable conditions for debt conversion, lie before us at this moment as reasonable and tangible probabilities." Let us hope that this time the corner is to prove in fact a corner, and not merely the arc of a circle.

Suppression of Counterfeiting Currency.

International Conference.

League of Nations, Geneva.—The Diplomatic Conference for the Suppression of Counterfeiting Currency, convened under the auspices of the League of Nations, met at Geneva from April 9th to 20th. This Conference was the result of a step taken by the French Government in 1925, requesting the Council to investigate the question of counterfeiting currency.

The Conference drew up a convention with a Protocol and Final Act with a view to the more effective prevention of the offence of counterfeiting currency by various legislative and administrative measures.

For certain of the contracting parties this Convention involves the obligation to modify their domestic penal code and to take concerted administrative measures with a view to preventing the counterfeiters from escaping punishment.

One of the results of the decisions of the Conference will be the convocation of an international congress of the national police offices dealing with the suppression of counterfeiting currency.

The Conference further recommended that an enquiry should be made into the international measures that might be taken with a view to preventing the counterfeiting of other securities (share and debenture certificates, cheques, bills of exchange, etc.).

The Conference was attended by delegations from thirty-five States, of which the twenty-four following States signed the Convention, the Protocol and the Final Act at the end of the meeting: Albania, Austria, Belgium, China, Colombia, Cuba, Czechoslovakia, Danzig, France, Germany, Great Britain, Greece, Hungary, India, Italy, Japan, Luxemburg, the Netherlands, Poland, Portugal, Roumania, Kingdon of the Serbs, Croats and Slovenes, Switzerland, Union of Socialist Soviet Republics.

The following States, who were also represented at the Conference, have so far signed the Final Act only, reserving their accession to the Convention: Brazil, Denmark, Ecuador, Finland, Lithuania, Nicaragua, Spain, Sweden, Turkey, United States of America.

The Conference was presided over by M. Pospisil, Governor of the National Bank of Czechoslovakia. It appointed as Vice-Presidents Mr. Wilson (United States) and M. Schober (Austria).

The basis of its discussions was a preliminary draft convention for the suppression of counterfeiting currency prepared by the Mixed Committee set up by the Council on the advice of the Financial Committee.

The Conference set up two committees, one to study the legal questions raised in the draft convention and another to study administrative questions. The first committee was presided over by M. Servais (Belgium), with Sir John Fischer Williams (Great Britain) as Vice-Chairman: the Chairman of the second was M. Delaquis (Switzerland) and the Vice-Chairman M. de Chalendar (France).

The main provisions of the Convention and its annexes are analysed below.

The object of the Convention is to render more effective the prevention and punishment of counterfeiting currency, the word "currency" being understood to mean paper money, including bank notes and metallic money, the circulation of which is legally authorized.

For this purpose the Contracting Parties recognize that the following should be punishable as ordinary crimes:

(1) Any fraudulent making or altering of currency, whatever means are employed:

(2) The fraudulent uttering of counterfeit currency;

(3) The introduction into a country or the receiving or obtaining counterfeit currency with a view to uttering and with knowledge that it is counterfeit;

(4) Attempts to commit; and any intentional participation in the foregoing acts:

(5) The fraudulent making, receiving, or obtaining of instruments or other articles peculiarly adapted for the counterfeiting or altering of currency.

Each of these acts, if committed in different countries, are to be considered as a distinct offence and no distinction is made in th scale of punishments between acts relating to domestic currency and to foreign currency. In countries where the principle of the international recognition of previous convictions is recognized, foreign convictions for offences of counterfeiting currency shall be recognized for the purpose of establishing habitual criminality. In so far as civil parties are admitted under domestic laws, foreign civil parties, including, if necessary, the High Contracting Party whose money has been counterfeited,

should be entitled to all rights allowed to the inhabitants of the country.

The Convention further includes provisions concerning the extradition of foreigners, which vary according to the laws of the different countries but aim in a general way at preventing the offender from escaping punishment owing to the fact that he is residing in a for ign country or in a country other than that in which he has committed the offence.

There are also provisions for the seizure and confiscation of counterfeit currency, as well as the instruments used for the counterfeiting of currency. The Convention provides that a central office shall be established in each of the Contracting countries to investigate cases of counterfeit currency. There are certain stipulations regarding the organization and working of these offices and the institution of a central international office with which the national offices will correspond. The central offices will also correspond directly with each other. There are provisions concerning the transmission of letters of request relating to offences of counterfeiting currency.

It is specified that the participation of a High Contracting Party in the Convention shall not be interpreted as affecting that party's general attitude on the question of criminal jurisdiction as a question of international law. The Convention, moreover, does not affect the principle that the offences referred to should, in each country, without ever being allowed impunity, be defined, prosecuted and punished in conformity with the general rules of its domestic law.

The Contracting Parties agree that any disputes arising between them regarding the interpretation or application of the Convention shall be referred to the Permanent Court of International Justice if they cannot be settled by direct negotiations. In the event of any of the Contracting Parties involved in such a dispute not being signatories to the Court Protocol, the dispute will be referred to another arbitral tribunal. The Convention is open to all States Members of the League and to all non-Members States invited to accede. The instruments of accession will be sent to the Scretary-General, who will notify States that he has received them.

Should any States desire to accede to the Convention subject to reservations, the latter will be communicated to the other Contracting Parties, and if within six months, no objections are made, the participation of the State concerned will be deemed to have been accepted by the other High Contracting Parties subject to the said reservation.

Ratification of the Convention or accession by any Contracting Party implies that its legislative and its administrative organization are in conformity with the rules of the Convention. *In the absence of a contrary declaration* the Contracting Parties, the provisions of the Convention do not apply to colonies, overseas territories, protectorates or territories under suzerainty or mandate.

The Convention will come into force when five ratifications or accessions have been deposited.

In the Protocol annexed to the Convention it is specified :—

(1) That the falsification of a stamp on a note, when the effect of such a stamp is to make that note valid in a given country, shall be regarded as a falsification of the note.

(2) That the Convention does not affect the right of the Parties freely to regulate, according to their domestic law, questions as to the institution and conduct of prosecutions, the prerogative of pardon or mercy and the right to amnesty.

(3) That the rule stating that certain acts *are regarded as distinct offences if committed* in different countries in no way modifies internal regulations establishing penalties in the event of concurrent offences. It does not prevent the same individual, who is both forger and utterer, from being prosecuted as forger only.

(4) That States are required to execute letters of request only within the limits provided for by their domestic law.

The Protocol, moreover, mentions reservations submitted by the Indian and Chinese Governments concerning extradition and by the Union of Socialist Soviet Republics concerning ratifications. It also contains statements made by the Swiss and U. S. S. R. Governments with regard to certain special circumstances.

The Final Act contains various recommendations, of which the principal are :—

(1) The Council is requested to communicate the text of the Convention and Protocol for signature or for accession to all Members of the League and non-Members in cases where it considers it desirable.

(2) The Governments which have signed the Convention are invited to notify the Secretary-General of their situation in regard to ratification should such ratification not have been deposited within three years from the date of signature.

(3) Governments are invited to take as far as possible, even before ratification, the administrative measures appropriate for the organization of the services provided for in the Convention.

(4) They are also requested to notify the League of the existence of a central office for the prevention of counterfeiting currency, and it is provided that as soon as fifteen central offices have been created the first conference of the representatives of these offices may be summoned by the Council. It is suggested that pending the creation of an international central office Governments should continue to make use of the International Criminal Police Commission at Vienna.

(5) It is further recommended that the central national offices should study the prevention of counterfeiting other securities (share and debenture certificates, cheques, bills of exchange, etc.) and that the League should consider the desirability of preparing an international convention to that end.

It is also recommended that rules for the extradition of accused or convicted persons should be unified on an international basis with a view to obtaining a really effective suppression of crime; that letters of request concerning counterfeiting currency be communicated directly, if possible, and not through diplomatic channels; and that the despatch and execution of letters of request should be regulated by international convention so as to produce a uniform system of rules.

Finally, on the proposal of M. Pella (Roumania) an optional protocol was laid before the Conference by which Contracting Parties undertake in their mutual relations to consider the acts referred to in the Convention as ordinary offences as regards extradition.

The optional protocol has so far been acceded to by Austria, Czechoslovakia, Greece, Portugal, Roumania and the Kingdom of the Serbs, Croats and Slovenes.

In his closing speech M. Pospisil stated as follows his views on the work of the Conference:—

"It is certain that there is nothing sensational, in the general acceptance of the term, in the Convention we have just adopted. But I am none the less convinced that it is an important international act and that for this reason it may possibly render more lasting service to mankind.

"Though we have encountered differences of opinion reaching down to the very root of legal systems, firmly anchored and consecrated by centuries of evolution, we have, without losing sight of practical requirements and feasibility, advanced along the path of international unification, co-operation and soliderity.

"We have also made some progress in regard to the vexed question of extradition—the complexity and gravity of which is due to the fact that it not only belongs to the relatively limited domain of the technical questions with which we have dealt, but also concerns important political principles, which permeate the whole work of the League of Nations.

"Our direct goal, that is, the more effective prevention and suppression of counterfeiting currency, has been reached by the Convention in an appreciable measure. In the clauses adopted we have embodied the principle that the counterfeiting of currency is a criminal offence and in this difficult matter we have found a formula which, if not entirely satisfactory as regards the letter—and we have taken a great deal of trouble to draft this letter—is by no means indefinite if we can reckon with the sincere and loyal understanding of the principle of the Convention, and it is difficult to conceive that it should be otherwise.

"We have made a joint effort, which has not been unsuccessful, to refuse to allow persons guilty of counterfeiting currency to escape punishment.

It is a well-known fact that the efficacy of a law depends in a large measure upon its necessity being recognized by public opinion. I think it is possible to state that our Convention is supported by a universal conviction of this kind."

The statement in the *Daily Mail* of February 7, that "to-day the property of the Salvation Army in New Zealand alone is valued at well over £1,000,000," makes one feel that we are going, and in fact have gone, back to mediæval times, before Henry VIII broke up the so-called religious bodies and distributed the wealth they had "absorbed" from circulation and prevented its being used by the public. One wonders to what extent the same drawback will be allowed to continue to-day, whilst the Empire at large needs capital so badly to finance undertakings for the public good and not for the gratification of a single individual or of a few spenders. Tartuffe is surely very much in evidence to-day. What can be done to make misguided individuals realize that fact?

There never was anything made but what someone else could make it worse and sell it for less.

Notes from London.

The Budget.

London, May, 20.—The introduction of the Budget is always an outstanding political event; this year the imminence of a General Election, with a large body of new electors exercising the franchise for the first time, lent it additional interest. It was generally believed that the Chancellor of the Exchequer would make proposals calculated to improve the prospects of his party at the polls, but apart from the remission of the duty on tea there is little in Mr. Churchill's proposals to create popular enthusiasm, even if there is not much to which serious objection can be taken. The removal of the tea duty has the unfortunate result of reducing the number of items on which it is possible to give a preference to the Empire. One can rejoice that it has been found possible to remove the duty from the only luxury that many a poor woman enjoys and yet regret that a precedent has been established which may make it easier for some future Chancellor to sweep away the preference on other commodities. But industry, as a whole, is very little affected by the Budget. The readjustment of taxes to meet the criticism that the Derating scheme assisted trades that were not in need of help is not only expedient but also just. The changes in the motor vehicle duties are useful adjustments and the proposed extension of telephone call offices in rural districts brings the practice of this country a step nearer to that of enlightened nations that make more general use of the telephone than the Post Office administration has permitted here. The remission of passenger duty on railways is accompanied by a charge laid on the companies to use the money for the improvement of the transport service.

On the whole it is a fair criticism to say that Mr. Churchill's speech was a more brilliant performance than his Budget. His defence of the return to the gold standard was most timely. The gold standard renders inflation impossible but admittedly it deprived the exporting power of the country of the hectic stimulus of collapsed exchange. On the other hand, it has to be remembered that the nation lives by international trade, and the return to the gold standard has facilitated the purchase of essential food and raw materials. Mr. Churchill exposed the fallacy of raising huge sums to spend on works, mostly roads, which cannot be productive for years, by showing what happened in the era of frantic railway construction, when a grave financial and commercial crisis was caused by the diversion to railway construction of capital, labour and material needed for the ordinary industrial life of the country. It is a fair deduction that the experience of the past should bid the nation pause before embarking on road development to an extent that may imperil its stability in other directions. That, of course, is also the answer to the agitation for the creation of consumer credit. The country is not nearly self-contained and it can only divert attention from the production of goods for export to the supply of artificially inflated home demand at the expense of its financial stability. Indeed it all comes back to the doctrine so sedulously preached in these columns since the War, that there is no virtue in national "get-rich-quick" schemes, and the only way to the solution of the unemployment problem lies through the stimulus and encouragement of wealth production in every form.

British Preference in Canada.

The correspondence between Sir William Clark, British High Commissioner in Canada, and the Canadian Government in relation to the latter's new regulation concerning British preference has been made public. Sir William, it appears, made a strong protest against the decision that in future the British preferential rate would not be applied unless goods embodied 50 per cent of Empire labour and/or materials. He pointed out that such a course, unless modified, would deprive many genuine British manufactures of the benefits of the reference. The matter is vital for British manufacturers. As the Dominion Government has been reminded, Australia and New Zealand, after introducing a similar regulation ultimately permitted exemption lists which allowed the former percentage to suffice for such British imports as could show that no manufacturing process had been performed on them outside Great Britain which could be performed inside. It is so far encouraging to learn that consideration is being given in Ottawa to the question of an exemption list.

Economic Mission and Australia.

Sir Hugo Hirst, Sir Ernest Clark and Dr. Dougal Malcolm, members of the British Economic Mission who recently visited Australia, gave some interesting views on their experiences at a dinner in their honour at Australia

House. They made it clear that they had been greatly impressed by what they had seen and learned in the course of their tour, and that they had returned with firm confidence in the future of the Commonwealth. Sir Hugo Hirst, while dwelling on the excellent results of the conferences with employers and workers, emphasized the necessity of a more intimate knowledge among Australians of conditions and affairs in this country, and among the British people of conditions and affairs in Australia, personal visits, he considered, were of the greatest value, and, in the commercial world especially, visits to the Commonwealth by the principals of British firms would prove to be of the utmost benefit.

Allowance for Obsolescence.

During the past few years the question of allowance for obsolescent plant has been a subject of frequent discussion between business organizations and the Inland Revenue authorities. The view taken by manufacturers is that, generally speaking, too narrow an interpretation has been placed on what constitutes obsolescence ; moreover, it has always been insisted that the replacement of a machine is a necessary pre-requisite before a claim can be allowed. The Royal Commission on Income-Tax urged the abandonment of this condition but upto the present it has not been possible to secure the necessary legislation. Meanwhile, as the result of an interview between its representatives and the Board of Inland Revenue, a statement has been issued by the Federation of British Industries to the effect that the Department is fully alive to the necessity imposed upon manufacturers of scrapping machinery from time to time owing to the rapid improvement in processes of manufacture and will definitely take a liberal view in interpreting the provisions governing this matter.

Board's Future Policy.

The Federation states that the Board is prepared to give favourable consideration to claims which rest mainly upon improved methods that result in throwing out machinery which may still be of use to other manufacturers for other purposes—that is to say, machinery which may not of itself be actually useless, but which fails to keep the needs of the particular business up-to-date. Manufacturers may, therefore, it adds, rest assured of broad and sympathetic treatment of obsolescence claims in general. If the policy outlined by the Federation is carried out, it will undoubtedly encourage manufacturers to take advantage of the latest improvements in machinery.

Co-operative Societies.

Last month the National Chamber of Trade sent a memorial to the Prime Minister on the partial immunity enjoyed by the co-operative societies from assessment to income-tax. The memorial was signed on behalf of a large number of other retail associations and federations, representing in all 200,000 members. In view of the series of articles recently published, it is interesting to see that the memorial declared that " there is a strong feeling that the time has come for legal obligation to be placed upon the co-operative societies to keep their books and accounts in such a way as to show the amount of trade done and profits made from non-members, because profits made in this way should bear their proper share of taxation." It is also pointed out that all co-operative profits are not distributed to members, but very large sums are yearly placed to reserve, and that on these reserves no taxation has been paid. The Prime Minister, in his reply, declined to receive a deputation but referred to the recent statement of the Chancellor of the Exchequer that investigation is now proceeding into the amount of the difference between what the co-operative societies at present pay in income-tax and what they would pay if they were assessed in the same way as ordinary traders.

Indian and Eastern Trade.

An Indian and Eastern Association for the promotion and protection of trade has been formed to facilitate business with the East. It is intended at first to cover India only, including, of course, Burma and Ceylon, but later the Association hopes to extend its operations to cover the Straits and China. It is common knowledge that trade with India has recently become more difficult and it is thought that inter-communication between exporters, as well as a system of warning members against dishonest dealers, will prove very valuable to firms in this country. Arrangements are being made to keep a register of all Indian firms reported upon, to collect debts, to investigate cases in which bills are dishonoured or debts disputed, to obtain agents, and to perform other similar work on behalf of the members. The president is Lord Meston and the offices are at Dashwood House, Old Broad Street, E. C. 2.

Take your work seriously, but don't take the office home with you.

Co-operation of the staff is vital to progress.

Canadian Trade and Finance.

Business Conditions.

Montreal, May 9, 1929.—As a background for the interpretation of current business conditions, it is well to keep in mind the general *economic expansion that has taken place* in Canada during recent years. Manufacturers and investors in the United States have manifested a growing interest in this country, and in consequence, the business publications of the United States have been devoting a greater amount of space to Canadian affairs. In a number of instances, efforts have been made to compare the trend of expansion in Canada with that in the United States although the inadequacy of comparable business statistics has made this difficult.

At times it has been stated that in recent years the normal rate of growth in the volume of business in the United States has been about 3% a year. Since Canada is in an earlier stage of economic development, the normal rate of expansion is somewhat more rapid, but no *direct comparison is possible, because accurate* statistics of the total volume of economic activity are not available. Moreover, there is the added fact that the recovery from the post-war depression was somewhat more retarded in Canada than in the United States.

The Dominion Bureau of Statistics, however, issues an index of general industrial production which shows a 12% increase in 1928 as compared with 1926, the year selected by the Bureau as a base for calculation in the belief that it represented the most normal year in the post-war period. The index of production in the United States which corresponds most closely, is that issued by the Federal Reserve Board; this shows an increase of 2% in general industrial activity during the same period. A comparison of these indices would seem to suggest, therefore, that the rate of expansion in Canada from 1926 to 1928 has been possibly sixtimes as great as that in the United States.

The following table, which shows the percentage change in either the volume or the value of a number of outstanding factors in the business structure of each country, supports the suggestion that the relative rates of increase indicated by the two indices of general production may be correct. Such factors as carloadings, steel production, insurance sales, foreign trade and construction contracts are sufficiently representative to make their evidence a matter for serious consideration. Some of the indices in the table show a greater variation in the relative advance of economic activity in the two countries than do the general indices of production though others show a smaller variation. But, on the average, the percentage increase shown in Canada is more than five times as great as in the United States. While there is no statistical justificatoin for an unweighted average of this kind, it may be significant that it suggests the same relative growth as do the indices of total industrial activity.

PERCENTAGE INCREASE IN ECONOMIC ACTIVITY. 1926-1928.

	United States.	Canada.
	%	%
Inedx of Industrial Production ..	2	12
Employment (all industries) ..	6*	20
Steel production	6	58
Construction contracts ..	5	25
Raiway operating revenue ..	4*	14
Carloadings	3*	17
Foreign Trade	0.2*	13
Hydro-electric power generated .	19	49
Petroleum consumption ..	16	50

* Decrease.

Steel production has expanded much more rapidly in Canada than in the United States due to extensive railway development and large construction programmes. The rate of increase of construction, in fact, has been five times as rapid in Canada as in the United States during the past two years. The gross operating revenues and the carloadings of the railways of the United States declined 4% and 3%, respectively, from 1926 to 1928; in Canada, on the other hand, gross revenues increased 14% and carloadings 16%. In both countries, the statistics of carloadings have been influenced by the larger size of cars now in use. The foreign trade of Canada increased by 13% during the same period, while that of the United States remained practically stationary, showing a decline of approximately two-tenths of one per cent. It is noteworthy that of this trade, *exports from the United States increased* 7%, and imports declined 7.5%; and that in Canada both exports and imports increased, the former by 7% and the latter by 21%.

In the first quarter of 1929, general business activity in Canada showed a continuation of the rate of expansion which was typical of the 1926-28 period. Construction contracts awarded amounted to $373,000,000 in 1926, $419,000,000 in 1927 and $472,000,000 in 1928; for the first quarter of 1929 the total value of

contracts awarded was $97,000,000, an increase of 40% over the first quarter of 1928, and 145% over 1926. The index of general industrial employment in Canada for the first three months of 1929 shows an increase of 20% over the index for the same months of 1926, notable increases being exhibited in mining, forestry and manufacturing.

Electric energy generated has also shown a remarkable increase. The daily average of energy generated in Canada for Canadian use during December, 1928, and January and February, 1929, amounted to 43,746,000 kilowatt hours, 45,912,000 kilowatt hours and 44,622,000 kilowatt hours respectively, compared with 39,047,000, 38,588,000 and 38,858,000 kilowatt hours for the same months of the previous year, according to the Royal Bank of Canada's statistics of electric energy production. Total turbine installation in Canada at the end of 1928 amounted to 5,350,000 horse power, compared with 4,778,000 horse power in 1927 and 4,556,000 in 1926. In addition, there are projects under construction which will add, when completed, more than 1,200,000 horse power to the total development in the Dominion. Projects are under way in practically every province of Canada although the greatest development continues to take place in Quebec.

Total mineral production in Canada in 1928 amounted to $273,000,000 compared with $247,000,000 in 1927, representing an advance of 10.5%. An increase in the value of production in all classifications was exhibited, including metallic and non-metallic minerals, fuels, clay products and other structural materials. The most important single icreasees were in the production of nickel and coppnr. The quantity of nickel produced amounted to 96,750,000 pounds, which established a new record despite the high output during the war years. Copper production increased 44%, from 140,000,000 pounds in 1927 to 202,000,000 pounds in 1928, the value of the output increasing 66%, from $17,000,000 to $28,000,000

A number of important copper mines discovered in the past few years are expected to rank as producers during 1929 or 1930. This increased output together with the higher prices prevailing for the metal on both the London and the New York markets will increase the value of Canadian minerals produced in 1929 by a substantial amount.

Gold production increased by 2% in 1928, a decline in that of Ontario being more than offset by large increases in Quebec and in Manitoba. The value of gold produced in Quebec rose from $170,000 in 1927 to $1,240,000 in 1928, and in Manitoba, from $4,000 in 1927 to $400,000 in 1928. Further increases are anticipated from the copper-gold properties in the Rouyn and Northern Manitoba areas. Among the non-metallic minerals, the output of petroleum increased 32%, and as a result of drilling and the completion of new wells a substantial increase is also expected during the current year.

In the Prairie Provinces, the crop year 1928-29 has been distinguished by the rapidity with which the crop was marketed. During the four months, August 1 to November 30, grain carloadings amounted to approximately 360,000 cars, an increase of 100,000 over the same period of 1927. As a result of this heavy shipment, stores of grain in country elevators and on farms have been reduced below the average for this time of year. In consequence, the transport of grain and grain products declined during the first quarter of 1929, the figures showing 111,423 carloadings as compared with 131,592 in 1928. But during the early months of the current year, total carloadings, excluding grain, were above those recorded for the first quarter of 1928, the increase being chiefly due to higher shipments of minerals, pulp and paper, merchandise and miscellaneous freight. The two latter classes accounted for 48% of the total loadings in the period, compared with 45% last year, and may be taken as a good indication of the increasing activity of Canadian trade.

THE WORLD WHEAT SITUATION.

It is estimated that the prepared wheat acreage in the three Prairie Provinces is nearly a million acres larger than a year ago, and this fact, together with reports that the moisture content of the soil is now satisfactory, would indicate that the 1929 crop prospects may be regarded as promising. Despite the increase in the Canadian wheat acreage, however, the prospective world area for 1929 crops is somewhat below that of 1928. According to the United States Department of Agriculture, the 1929 wheat area in 13 countries has been reported at 117,039,000 acres, representing a decrease of 4 per cent from the 121,632,000 acres of 1928.

While the unusually severe winter in Europe was detrimental to the winter wheat, the exact extent of its influence is not yet known. In most regions, heavy snowfalls are thought to have mitigated serious damage although winter cereals in the Danube Basin are believed to have suffered considerably. Roumania received the most serious setback reported, with

one-half of the grain acreage lacking snow cover during the height of the frosts. Reports of crop conditions in North Africa and India are only slightly less favourable than those of similar date a year ago. In Russia, the Government's plan to increase greatly the acreage sown to spring crops has not been entirely carried out, and several important wheat producing sections have reported that the area actually sown to new crops has been from 12 to 18 per cent below last year.

As regards total world wheat production in 1928, fairly comprehensive figures are now at hand. Exclusive of China and Russia, the 1928 crop has been estimated at 3,780 million bushels compared with 3,605 million bushels in 1927. The Canadian estimate was recently revised upward by nearly 33,000,000 bushels, making a total of 533,572,000 bushels as compared with 479,665,000 bushels in 1927. Both the Canadian and the world crop figures constitute new high records of production. The United States, Argentine and Australian crops for 1928 were among the best ever harvested, while the Danube Countries had the largest crops since the War. High average yields also accompanied these increases in production. The average yield per acre for all wheat in Canada in 1928 was 22.1 bushels; in the United States, the yield has been reported at over 15 bushels per acre.

As a result of this large production and yield, world export surpluses at the end of 1928 were unprecedentedly high. Prices during the summer consequently ranged lower in the principal wheat markets than at any time since the 1923-24 year, and by last December, had only partially recovered from their drop. After the turn of this year, however, cash wheat prices showed much improvement. By the end of February, they stood at the highest level since July, but since then have averaged somewhat lower.

Among the causes which have been responsible for the upward tendency since the autumn, certain factors stand out prominently. Of these, probably the most important has been the rapid consumption of the wheat surpluses by both European and ex-European countries. Net shipments of wheat and flour from the principal exporting countries from July 1 to the end of March amounted to 634 million bushels as compared with 520 millions for the corresponding period of last year. Evidence of these heavy shipments may be seen in the reduced stocks of Canadian grain in North America at the end of March. Though stocks amounting to 189,656,000 bushels then remained at country and terminal elevators as compared with 149,656,000 bushels a year ago, the increase was practically counterbalanced by the smaller farm holdings this year as compared with 1928. At present, total stocks of Canadian grain are estimated to be approximately 15 million bushels above the previous year's figure.

In Europe, the heavy procurements of wheat have been largely due to the failure of the 1928 corn crop and the low prices prevailing for foreign wheat. The trade has chiefly taken the form of hand-to-mouth purchases rather than energetic forward buying. Higher per capita consumption has also been evident and much of the wheat purchased has been used to replace corn as feed grain. This materially helped to reduce the stocks in Europe which had accumulated as a result of the bumper crop. In the north, interior supplies were heavily drawn on through the freezing of rivers and harbours, and the disruption of railway traffic, which prevented imported grains from reaching their destination. This was only temporary, however, and the steady absorption of wheat by Europe as a whole was unaffected. At present, the demand seems likely to continue with the emphasis shifting from the Mediterranean countries to the northern states. It is believed that the poor distribution of the Russian crop may lead to the importation of wheat flour, while further heavy purchases are expected from the Far East. India and China have been particularly large buyers, and this has resulted in record shipments of grain to eastern countries.

So many uncertain factors enter into the case, however, that any accurate forecast as to the trend of wheat prices is practically impossible. The shipment of South American grain, the movement of stocks in North America and weather conditions surrounding spring seeding, will all have an important influence on the course of prices. But in general, it may be said that the world wheat situation is relatively satisfactory. The record crop of 1928 is being absorbed and prices, though low, give promise of responding to an increasing demand. The Food Research Institute at Leland Stanford University, California, in a recent issue of its "Wheat Studies", concludes that: "The international statistical position, therefore, is easy. But trend of seed requirements, population, and per capita consumption are upward, and low prices will encourage heavy utilization. Disappearance, international trade and outward carryovers will probably all rise to new high levels. Total net exports may reach

or exceed 900 million bushels, but United States experts bid fair to be small in proportion to the size of our crop."

In estimating future developments in the wheat market, other studies of this Institute provide some interesting material and it may not be out of place to say a few words in connection with these. The problem of forecasting wheat yields from the weather was considered in a recent paper and the obstacles in the way of a solution were outlined. The chief difficulties would seem to lie in the inadequate statistical data at present available. To remedy this deficiency, crop yield statistics, weather records, and our knowledge of the laws of plant growth must be improved. With this information as a basis and assuming that a given crop plant in a given regional ways reacts in the same way to a given kind of weather, it may be possible in the future to predict wheat yields with considerable accuracy.

In another study, on the place of wheat in the diet, attention is drawn to the relative nutritional value of various cereals, and the interesting comment is made that, "To consume our wheat as whole wheat bread instead of white bread would make no essential contribution to the national health, and would not be in the interest of national economy, at least if the present American diet continues to prevail. Protein, minerals, vitamins and roughage are adequately available in other foodstuffs and nutritional security in the diet is to be sought in the milk supply."

From these references to certain issues of "Wheat Studies", some indication has been given of the useful work done in this field by the Food Research Institute. The existancè of reliable statistical information is to-day very important, and the regular reports which this Institute publishes constitute valuable material for any consideration of world food problems.

Topics in the Journals.

The Managing Agency System.

Apropos of what we wrote on the Managing Agency System in our April issue, we give below the views of a writer on it in the *Near East and India* (May 10, 1928) :—

The movement towards combinations and amalgamations in industry in this country has drawn attention anew to the Indian system whereby a group of joint-stock companies are often managed by one firm or by another joint-stock company. It is the exception in India for companies to be managed otherwise than on this system, which works well in practice. The Indian Companies law was consolidated and amended in 1912-13 when the advantages and disadvantages of the system were investigated. Following the English law, neither the previous Indian Act of 1882 nor the consolidating Bill, contained any provision requiring a company to have individual persons as directors. It was, however, suggested in the course of the discussion on the Bill that, in view of the existence of the managing agency system, the new law ought to require every company to have a director or directors. As a matter of convenience, this proposed provision, which was adopted by the Legislature, was not inserted in the consolidating Bill. It was considered separately and was added by an amending Act, which became operative on the same date as the larger Act. In addition to providing for every company to have a director or directors, the amending Act made two further changes in the law. The first of these was that interested directors were required to disclose their interests in contracts to the other directors; and, in the case of contracts appointing managing agents, to the shareholders. The second provision was that in the case of contracts by the agents of a company (other than a private company), in which the company is an undisclosed principal, a memorandum of the terms of the contract were to be communicated to the company.

The enforcement of these new provisions necessitated certain changes in the management of then existing companies. These were carried out and the system has since continued to work smoothly and without difficulty. When a new company is launched it is customary for the issue to be made by the managing agency firm ; and if the firm is of good standing and substantial reputation an appeal to the public is seldom necessary. In lieu of a prospectus the managing agents publish a statement, containing the usual particulars, and receive subscriptions from their associates and friends. It is quite the common practice for one agency firm to manage a number of companies. These may be concerned with any of the industries that are carried on in the province or, it may be, in other provinces. If the agency firm is located in Calcutta, for example, it may act as agents for several jute mills companies in the neighbourhood, and for companies owning and working tea estates in Bengal or in Assam, and for companies owning and working coal mines in Bengal or in the province of Bihar and Orissa. Then the firm may have, in addition, companies manufacturing miscellaneous products, for example, flour, oil, paint, ropes, etc. In Bombay, Madras, Rangoon, Karachi and elsewhere in India the practice is similar. The system is perhaps open to criticism, inasmuch as it leads to a complexity of interests being made subject to a single control. But on the other hand this is often an advantage. Indian industries are in an early stage of their development, and many of them might not have been started at all but for the existence of the managing agency system. All industries are liable to periods of depression and those in India are no exception to the rule. And practical experience has shown that at such times many of the weaker companies would have been unable to carry on but for their managing agents who have helped them either by direct advances or by guaranteeing bank advances.

The actual working system which a managing

agency firm follows may not be without interest. It is the common practice for an agency firm to have either as partners or departmental managers, certain specialists in the various lines of business with which the firm is chiefly concerned. The partner or manager, who specializes in, say, tea, will represent the firm — generally as chairman — on the Boards of all the tea companies that are in the agency. Similarly each of the other partners or managers takes charge of a group of companies. The result, broadly stated, is that the general policy governing sales and purchases, in fact the whole organization, becomes identical for each group of companies. Not only does this collective administration ensure identity of interests, policy and control. It also means that the overhead charges in respect of general management, accounts, secretarial and clerical work, purchases, sales, etc., are divided *pro rata* to the common benefit of the group. Managing agents are generally remunerated by a monthly *salary in addition to a percentage of net tradin* profits; and such remuneration includes all head office administration and staff. Frequently, but not necessarily, the agents hold a controlling interest in each of the companies that they manage. And they are, as a rule, protected by a managing agency agreement which ensures continuity of interest and tenure of management for a period of years. The Calcutta Jute Mills have been mentioned in the Press recently in connection with a scheme for the sale and purchase of their shares in the London market. They constitute one of the principal manufacturing industries in India, and they are a striking example of what can be accomplished by the managing agency system. It seems to be obvious that a system which can produce such a result must have many points in its favour. It is well, perhaps, to add that the managing agency system is practised by Indian as well as by European merchants. The bulk of the Calcutta jute mills and a large majority of the tea manufacturing concerns in Bengal and Assam are under European control. But in Bombay, Calcutta, and all the other large mercantile and industries centres numbers of Indian managing agency firms are in existence and many of them are working successfully. In the Bombay cotton industry Indian firms have, of course, a largely preponderating share.

Compulsory Primary Education in Villages.

To make compulsory primary education acceptable and popular in villages, Mr. Gharat proposes the following scheme in the *Progress of Education*, May 1928, that is at once sound and simple. He writes :—

To children of agriculturists, artisans and labourers who have to help their guardians for a few hours in the day, special short time classes may be conducted. The special classes should meet for 3 hours after 11 A.M. and again for two hours after 7 or 8 P.M. The timing may, of course, vary according to local conditions. This scheme will have several advantages. The cultivators and others will not be hampered in their trades. Local Boards will find them less expensive. The houses where these schools meet will be available for the special classes, and where the schools meet between 11 A.M. and 5 P.M., the school houses may be extended and accommodation for special classes provided at a small cost. Special books dealing with subjects useful for the children attending these classes, will have to be prepared. *If in the case of boys attendance at the* evening classes be made compulsory up to the 17th year of their age, the objection that no good progress can be made by boys getting only few hours' instruction will be disposed of. It may be mentioned that while the children are in the open fields looking after cattle, they enjoy plenty of fresh air and play all sorts of games. Attendance at the evening classes will therefore not deprive them of games in the open air.

The Mango Industry.

Mr. P. V. Wagle's article in the *Poona Agricultural College Magazine* (Feb.) on Konkan Mango industry and their conditions would be found interesting reading to us in Mysore in view of the importance of the mango industry in the State. The author's suggestions for improvement are summarized below :—

The present tendency of the people of simply multiplying the plantations should be checked. It is best to have a few plantations systematically planted and well looked after than having many with indifferent management. Limitation of numbers gives scope for increased yields.

Proper control of pests and diseases.—The damage done by hopper pest and mildew varies from 25% to 75% which can be minimised by proper treatment.

Packing and handling of fruits.—The loss by packing in bamboo baskets and rough handling by steam companies account for at times to 10% of damaged fruits. This can be obviated by packing in cheap wooden cases with arrangements for proper ventilation.

Marketing.—The mango merchant is at present entirely at the mercy of the Bombay *dalal* as the selling of fruits is not done by open auction but under cover. Neither the merchants nor the buyers know anything about the actual terms. Thus the *merchants and the growers are at considerable disadvantage, for dalals eat away considerable share of the profit.* Unless the whole question of marketing is properly organized on a co-operative basis the industry is bound to suffer.

An International Language.

A plan to solve the problem of an effective international language has been evolved by a group of scientists and scholars who have found it possible to reduce the English language to 500 words, says *The Daily Chronicle*.

It is claimed that the people of all countries will be able to pick up the reduced English vocabulary in a few weeks or months, whereas the learning of English may take them years. Those 500 basic words have been called "panoptic English" because they can be printed on the back of a single sheet of note paper and "seen at a glance". Verbs vanish. Instead there are "12 operators"—come, get, give, go, keep, let, make, put, take, be, do, and have—which cover the essential movements of objects and beings. English people would only need to learn to write "panoptic English" in order to correspond effectively with foreigners. They would have to "reduce" every-day English into a simple form in this way :—

Business letter :—The mirror despatched to the cinema sustained serious damage through falling after disembarkation. Kindly attend to this matter.

Basic English :—The looking glass on the way to the motion picture house had a fall after getting off the ship and is badly broken. Please give this your attention.

The whole English language in its reduced form together with a discussion of the principles behind the system occupies only a single page.

Imperial Aviation.

Mr. Robert Rankin, President of the Liverpool branch, presided on November 14th at a luncheon to Sir Alan Cobham, K.B.E. Referring to the change of title, he urged the Liverpool fellows to make the local branch of the Royal Empire Society worthy of the city. Having spoken of Sir Alan Cobham's flying achievements as being a wonderful record calling for scientific skill, organization and bravery, Mr. Rankin said that Liverpool was not uninterested in civic flying, but Sir Alan would speak to them on the larger question of Aviation and the Empire. Improved communications to link up the Empire by sea and air had been the insistent call of the Imperial Conference. Sir Alan had given a lead to the Empire in aviation, and even to the world, and they wished him health and safety in the great task he had set himself.

Sir Alan Cobham, having stressed his belief that flying was "absolutely safe"—so safe that an aviation accident became a news item because of its rarity—said the development of Empire air routes was purely a question of finance. The air route to Australia was quite a practical matter if the necessary money was forthcoming. He had been going into figures, and found he had a machine which, provided he got a 90 per cent load, would enable him to pay 10 per cent on his capital and put money to reserve. That was a point they had never reached before; it showed they were approaching the paying basis. He thought the Australian route would pay from the start. If we did not develop our Empire air routes ourselves, somebody else would do it for us. We had vast territories, and we must either take to large-scale aeroplane building and the training of personnel or yield to others what we might find it very difficult, if at all possible, to get back. His recent round Africa tour convinced him that that country offered the greatest possibilities for transport development. Why did *British shipowners not* go into this question of air transport? Flying was the next step to shipping, and if they wished to maintain control of transport they would have to adopt it. It must be remembered that if we did not make our own machines and train our own pilots we could not hope to develop our Empire routes, nor could the aeroplane manufacturers be ready at all times to produce the right type of machine at the right moment to supply the markets at home and overseas. As present there were certain inaccessible areas, in Africa, for example, where men refused to bury "themselves," but when they found that air transport would take them there and back in a fortnight instead of two months, and that they could get mails every seven days, matters would be very different. The only thing that was retarding flying in this country was the shortage of landing-grounds. The greatest possible step towards the development of aviation would be the provision of an aerodrome in every town and village.

The Preservation of Wood.

"And . . . to become little by little the most tenacious, the most deeply-rooted, the most formidable of all the occupants and conquerors of the globe." . . . An utterance dramatic in its significance, one must concede, but the more striking still when it is realized that it refers to the menace of so insignificant an enemy as a tiny, blind, defenceless insect. Yet the passage is merely one selected at random from the countless numbers to be found in bewildering profusion in the pages of Maeterlinck's nightmare-ish, but none the less enthralling, book on "The Life of the White Ant".

The ravages of the termite in most of the tropical countries of the world are, it is assumed, only too well known to all, yet how to combat its relentless and devastating destruction, even of one's very hearth and home, is a problem faced by many domiciled in regions infested by this scourge, faced but yet to be conquered.

To those only too familiar with the termite, it is easy to read a poignancy and despair in the simple lines of the appeals that so often come to hand like one made a short while ago by a resident of South Australia, when begging for advice in her vain efforts to save her home from being "slowly destroyed by white ants".

Whilst, in lighter vein, we may regard with a degree of amusement the spectacle of the bulky engineer, on a visit to his chief's headquarters in a South American town, who, for lack of any seating accommodation adapted to his weight, leaned for support against the wooden partition of the office. Suddenly there was a splintering crash, and with a startled yelp he disappeared through the partition into the corridor on the other side. An inspection of the damage revealed the partition to have been eaten away down to a thin veneer of wood and paint. This ascertained, it was quite clear to all, led by an instinct as uncanny as it is inexplicable, that the termite had been living in and on that wood, only leaving intact, here and there, *sufficient of the fibres to hold the structure together* under a normal strain.

The study of the termite still remains of absorbing interest to entomologists and naturalists the world over, but it is to the industrial research chemist that we must look for weapons wherewith to protect one's property against these tiny, though none the less terrible, invaders. By the use of a non-volatile preparation, which appears to have been subjected to exhaustive tests in various parts of the world, woodwork, it is claimed, can be rendered impervious to white ant attack for an indefinite period.

For exterior woodwork, the efficiency of tar oil and creosote as a deterrent to the termite, although widely known, has its limits, in that its field of use is, for economical reasons, confined to but little more than the surface of the wood to be protected. To obtain the maximum results it must be forced into the wood by vacuum-pressure, a process which, at the outset, not only materially adds to the cost of the timber—already a costly item to many—but is obviously impossible of application by the average dweller in the tropics. A further disadvantage in creosote treatment is the objectionable odour of this compound, another being the fact that it renders woodwork more inflammable.

The efficient wood preservative must, therefore, be, says *Tropical Life*, both practical and economical. Also, its consistency must be such that when applied

by brush to the surface it will penetrate and be carried *into the wood by capillary attraction.* To this must be added the quality of natural preservation, to wit, a definite hardening of the surface of the wood whilst at the same time maintaining intact the natural colour and, in expensive timber for decorative use, the beauty of grain, in order that any desirable finish can be given to it.

A product of the nature filling the above requirements has been placed on the market and is manufactured by a British firm which has devoted over a quarter of a century of scientific research and world-wide *experiment to this and analogous articles of a preserving* character, by a firm too, who holds stocks both at home as well as in a large number of the tropical and sub-tropical countries of the world. To those confronted with the pressing problem of adequately preserving their structural timber, it would therefore be advantageous to write to the London office of the firm referred to, *viz.*, the Atlas Preservative Company, Limited, of Deptford, London, S.E. 8, and ask for advice together with the name of their nearest agent.

Books in Brief.

Short Reviews of Recent Books.

Memorandum on Production and Trade, 1913 and 1923—1927.

The Secretariat of the League of Nations has just issued its "Memorandum on Production and Trade" 1913 and 1923-1927 (Geneva 2*sh* $0.50). The first edition of this publication, which appeared in *1926*, was designed to furnish documentation for the Economic Conference of May 1927. During its session the Conference expressed the wish that the publication of the Memorandum be continued, accordingly a second edition appeared in *1928*; *the present issue is the third*

The evidence afforded by the table and later analysis points to the following general conclusions, certain of which will require subsequent interpretation and *qualification.*

(*a*) By 1927, world production of basic raw materials and foodstuffs was over 21 per cent greater than before the war, world trade was about 20 per cent greater and world population 9 per cent greater. *Production continued to increase in 1928, for which* the preliminary index is as high as 125.

(*b*) The production of foodstuffs has not grown so rapidly as that of a industrial raw materials. In 1927, the foodstuffs index was 113 and the raw materials *index over 135. The preliminary figures for 1928 are* 116 and 139 respectively.

(*c*) World trade—the quantity of goods exchanged internationally—was, in 1927, 9 per cent greater than in 1926. As a consequence, the discrepancy between *the growth of world trade and the increase in the pro*duction which has characterized recent years appreciably diminished. It remains to be seen whether this tendency towards the restoration of the old balance will prove to be permanent or not.

(*d*) The recovery in European production and trade in 1927 was striking. The quantum of European trade exceeded that of 1913 for the first time.

The trade index for Europe, excluding the Soviet Union, was 108 and was higher than the population index (106) and not far short of the production index (110).

(*e*) Production in North America fell in 1927 compared with 1926 on account of a contraction in the raw material output; but the foreign trade of this continent continued to increase.

In 1927, North America's population was not far from one-fourth, its production of foodstuffs and raw materials over one-fourth (in 1928 probably about *one-third)* and its *foreign trade over one-half greater* than in 1913.

(*f*) The population of South America has grown more rapidly than that on any other part of the world — by some 40 per cent Its production of foodstuffs and *raw materials has just kept pace with the popula*tion growth but its international trade has increased by less than 20 per cent.

(*g*) The group of Caribbean Countries present a remarkable contrast, for their population has only *increased by some 5 per cent, while foreign trade is over* one-third and production about one-half greater than in 1913.

(*h*) The growth of production in Africa is of the same order of magnitude as that of the Caribbean *Countries (about one-half) and the increase in its* foreign trade equals that of South America (about one-fifth); its population has grown by some 11 per cent.

(*i*) The international trade of Asia has developed at about the same rate as that of North America (over 50 *per cent); its production has grown by roughly one*fourth* and its population by only about 7 per cent.

(*j*) The growth of population in Oceania is equal to that in North America, the increase in its production coincides with the world average and the increase in *its foreign trade is twice as high.*

(*k*) By 1927, the population of Africa, America, Asia and Oceania together had increased by 10 per cent, the production of foodstuffs and raw materials by 29 to 32 per cent and the international trade by 43 per cent.

(*l*) Although the change in the ratio as compared with 1913 between the prices of crude products and manufactured articles—at any rate in Europe—still remains a factor of material importance in world economy, not less important is the fact that there has during recent years been a distinct tendency towards the re-establishment of the old equilibrium.

(*m*) Compared with *1913*, the prices of manufactured articles taken as a group (excluding those produced by new industries or industries which have enjoyed a very marked and exceptional development in post-war years) appear to have remained in 1927 relatively higher than those of raw materials and foodstuffs.

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*This is exclusive of the foodstuffs production of China.

(*a*) The prices of the products of the extractive industries appear to rule substantially lower than those of agricultural produce.

From the foregoing brief survey it is clear that though the progress made in 1927 was greater in Europe than in any other continent, the development since 1913 has been much more rapid in the rest of the world. This has resulted in *important changes in the* relative shares contributed by the different continental groups to the world totals, more especially with regard to trade. Thus, by 1927, Europe's share in the international trade of the world had fallen since 1913 by 14 per cent (from 58.4 per cent to 50.4 per cent of the total); the share of North America had risen by 28 per cent, that of Asia by 27 per cent and that of Oceania by 15 per cent. The share of South America had dropped slightly and that of Africa remained practically unchanged.

The changes in the contributions of the various continents to the total production of the goods here considered are less marked. The share of Europe had shrunk by 9 per cent and that of Oceania remained unchanged; those of Asia and North America had increased by 2 and 5 per cent respectively, the joint share of Central† and South America by 18 and that of Africa by 20 per cent.

From the preliminary information available it would appear that both the output of crude products and the international trade of Europe continued to develop in 1928. The expansion in the rest of the world was, however, greater and in consequence there was a slight reversal of the tendency which characterized the preceding year.

The changes which have taken place in the distribution of the population of the world, as a whole, are negligible.

They are based on statistics that are in some cases of doubtful comparability and seldom so comprehensive or so exact as to render it possible to draw conclusions of mathematical accuracy or incontrovertible finality from any single series of figures. For this reason, importance should be attached not so much to the absolute magnitude of this or that figure as to the direction towards which the whole mass of accumulated data tends to point.

The Office of Indian Affairs.

By Lawrence F. Schmeckebier, published by the John Hopkins Press, Baltimore, 1927, pp. 591, 8" by 6". Price $3.

The title of this monograph must not be confused with anything concerning Asiatic India; it is on the contrary a lengthy description of the conditions and position of the original inhabitants of North America who by a time-honoured custom are called Red Indians. By the extensive occupation of America by Europeans, the position of the Red Indians in the American body politic became a Government concern. As such many tribes were located in reserved tracts assigned by Government. This monograph, authoritatively issued, presents the history of the Red Indians, their transplanted positions and reservations, and the laws governing them in as complete a manner as possible by the Office of the Indian Affairs.

En passant it may be observed that the racial antipathy—that is America's affliction—is markedly negligible toward that lucky being, the Red Indian. An American woman, always very keen on her Nordic blood, would exultingly declare her Indian heritage, if any. It is very strange that in a land where Negroes are lynched and relegated to a back place, the Red Indians are almost petted. Complex are the racial likes and dislikes of the modern Americans.

†Including Mexico.

Population Problems.

By Louis I. Dublin, Statistician, Metropolitan Life Insurance Company, and President, American Statistical Association, 1924. *Published* by Houghton Mifflin Company, Boston, U. S. A. Price $4.00.

This represents, as mentioned on the title page, an outgrowth of papers presented to the 86th Annual Meeting of the American Statistical Association in December 1924. It deals with population problems as they present themselves from a study of the conditions in the United States and Canada. But the interest created by the papers included in it are of a wider application. They raise interesting questions, which are typical of the difficulties surrounding the greater problems of population arising in any country. Those who were hitherto content with Mayo Smith's volume (on *Statistics and Sociology*) will hereafter add this volume also to their working libraries. Its great value is that a number of scientific writers have been enabled to come together and present a volume bearing on population problems affecting two great countries in the Further West. Mr. Dublin as Editor has done his work with great skill and assiduity. While he has not attempted to reconcile the differing views of the writers, he has endeavoured, without bias, to present all sides of the question. That is as it should be. Two points he makes are worth mention, because they raise highly important issues of an international character. One is that "the knitting together of the countries of the world by vastly improved methods of communication has made the whole world a unit and has given the population problem of each country an international aspect." The second is a corollary of this issue. "The linking of countries and the close inter-relationships that it has brought may ultimately necessitate a liberalizing of our immigration laws." He adds:—"At all events, only through amity and co-operation between nations can the population problem of any individual country be solved. These newly emphasized inter-dependencies of the peoples of the earth make it more difficult than ever before to determine the limits of population in any country." We would bespeak a kindly interest for this stimulating volume in this country. It is deserving of a place in every publicist's library.

Mercantilism and the E. I. Trade.

By P. J. Thomas, M.A., B.Litt. Published by Messrs. P. S. King & Son, Westminster, London. Price 8*sh.* 6*d.*

This book is a good thesis built upon stray, incidental statements of previous historians. It purports to expound the origin and development of two opposing schools of Economics,—Protection *vs.* Free Trade—out of the controversary carried on in England about the monopoly of trade enjoyed by the East India Company. The champions of the Company pleaded for free trade, while their opponents argued that the nation's interests and industries were jeopardized be the cheap imports from the East. After a bitter controversy, the protectionist view emerged victorious. The author has very well succeeded in demonstrating how the East India trade contributed to initiation and clarification of the contending ideas on Protection and Free Trade. Incidentally the book throws good light on the variety and value of the Indian manufactures of those days and the consequent

storm of envy and rage roused in the European countries; and how State intervention was invoked against the Indian competitor. It is a welcome addition to the few books on Indo-European trade and as such bound to be useful and interesting to all students of Indian History and Economics.

Karl Marx's Capital.

An Introductory Essay by A. D. Lindsay, Master of Balliol College, Oxford, Oxford, University Press. Price 2*sh.* 6*d.*

Few will deny that Karl Marx has "made history". His is the mighty force behind that colossal experiment of modern times—the Soviet Russia. He bids fair to preside over the 20th century; as such, a presentation of his tenets is both necessary and opportune. Marx has been misinterpreted by his devotees and misunderstood by his critics. Mr. Lindsay has succeeded to a remarkable extent, in rescuing him from the charge of being an insensate, "Red" revolutionary, an iconoclast of all property and individuality; and at the same time not obvious of the fact that the ideas of Marx are "good ethics built on bad history". A chapter is devoted to the influence of Hegel on Marxian Economic Determinism and Collectivism. Next, the Labour theory of value—a cardinal, teaching of Marx—is lucidly presented to mean that value is a social factor and not a mere product of Labour, *per se.* It has been also pointed out, by the sympathetic author, that Marx has done less than justice to the role of capitalism in the industrial enterprises and inventions of to-day and yet not acquitting it of its share in the "mechanization" of the human factor, and mulcting it of its just rewards. Federalization or social control of the means of production is the remedy proposed by the Prophet of Socialism, who in his fervid advocacy of the claims of Labour has certainly underestimated the complexities of the modern society and the consequent difficulties in realizing his ideas. The book is packed full with ideas presented in an impartial and perspicacious manner, couched in terse and vigorous language. It is, undoubtedly, a notable contribution to the literature on "Marxionism".

Life in the Indian Civil Service.

By Sir Evan Maconochie, K.C.I.E., C.S.I. Published by Messrs. Chapman & Hall, London.

This is a book of reminiscences by a retired member of the I.C.S., written in a taking style. Its objects and purposes may be inferred from the fact that it is to the "under-graduates and school boys of this country" (*i.e.*, England). It ought to prove, from the nature of its contents, at once an incentive and an encouragement. Though Sir Evan did not rise to be even a member of the Executive Council in Bombay, the Presidency to which he belonged, his experiences were many and varied. They ranged from that of a Settlement Officer to that of Political Agent, with a spell of Private Secretaryship to His Highness the Maharaja of Mysore. The chapters that relate to Mysore are full of interest to us in this State, but it will not do to retail what Sir Evan has to say of the State, its people, its Maharaja and its higher administrators. The period of Sir Evan's Private Secretaryship covered the period of the Dewanships of Sir P. N. Krishnamurti and Mr. V. P. Madhava Rao, and to this period there are interesting references in his book. There is a fine pen picture of H. H. The Maharaja and his eminent qualities of head and heart. The story Sir Evan tells of Sir P. N. Krishnamurti about certain letters answering themselves "if you only keep them long enough" is a characteristic one.

To show the higher interests bound up with the work, there is only need to refer here to one or two points of opinion formulated by Sir Evan in it. Here is one. In winding up his account of his stay in the Kathiawar States between 1915-21, he writes:—

"The problems of the future internal development of the Indian States and of their relations with British India are full of difficulty. It is impossible not to wonder how long the States' subjects will be content with autocratic rule, while the districts alongside are being steadily democratized. A solution will no doubt be found, but it will tax all the statesmanship of the Ruling Princes and the Government of India."

In the concluding chapter of the work, Sir Evan gives some valuable words of advice to those who *would succeed in India.* "*The first essential for happiness in India,*" he says, "is the ability to get into sympathy with the people." For the man or woman *of insular prejudices* and antipathies there is no place, and such "are a positive danger to our race and rule". He suggests: "Read Bernard Shaw's preface to *John Bull's Other Island* and think it over." He adds and this is his last sentence:—"Hitherto we have been able to help India because of the differences (in *environment and opportunity*) and, when that ceases to be so, the chief justification for our presence there will be gone." Here is really something to ponder and, let us add, act upon.

Sister India.

By "*World Citizen*", *Sister India Office, Churchgate Street, Bombay.* Rs. 2–8–0.

This book constitutes one of the many effective replies to *Mother India.* Outraged Indians have counter-attacked Miss Mayo in different ways, some of which have claimed kindred with her own peculiarly American method. Instead of proving palliatives to counteract the effects of lies about India, these have served only to exasperate feelings on both sides. The author of this book, be it said to his credit, has in spite of the grave provocation offered by the American purveyor of dirt, steered clear of the perilous waters of returning slander for slander. He has with methodical precision and balanced judgment done to smithereens the alleged "facts" about India broadcasted by Miss Mayo without resorting to open the "drains" of the West.

Western readers ought to find this book one of the most powerful replies to *Mother India,* that is both reasonable and gentlemanly.

"Searchlight" Anniversary Number.

We are glad to announce that the Anniversary Number of our Patna contemporary, the *Searchlight,* will be published by the middle of this month. Last year they had brought out a very successful number and this year they bid fair to make it even more attractive, special features being coloured plates and improved paper.

Acknowledgment.

Preliminary Report on the Survey of Cottage Industries in the Kistna and Godavari Districts. Price As. 8.

Preliminary Report of the Survey of Cottage Industries in the Tanjore and South Arcot Districts. Price As. 10. Government Press, Madras.

The Mysore Economic Journal

A Monthly Periodical devoted to the Discussion of all Economic Topics of Interest

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In Appreciation.

By the Editor.

Not infrequently we receive letters of commendation from our readers, several of them from unsolicited and unknown quarters. A couple of years ago, a gentleman writing to us from London enlarged on his interest in our *Journal* and the regularity with which he received and read it. He said that the *Journal* was one to be proud of and kept ready bound for future reference. Another wrote that Sir Roper Lethbridge's opinion that it is an "admirable" *Journal* is none too strong. Then came another, and this a London brother-Editor, who, desiring the compliment of exchange, remarked on the interesting and varied contents of the *Journal* and said that its non-political character appealed to him most. Now comes an Advocate of the Ceylon Bar, who, writing from Mt. Lavinia, under date 24th June 1929, says :—

"I consider your *Journal* very able and *interesting*, and avoids the curse of mock trade journals which are produced on the implied conviction that the instruction they convey must be in the exact ratio of unreadability. But I congratulate you on your breaking the law of the implacable adversity of the useful to the beautiful."

We feel thankful for these commendations, though they do not mean everything needful for us. They bring solace, even if they do not financially help. Commendation of a different sort has also reached us in a rather quaint way. A well-known administrator, who has had much to do with this State, was not long ago on a visit to the United States of America. He happened to visit, he said, a shop in San Francisco, where no sooner he announced himself as hailing from Mysore than a copy of our *Journal* was promptly brought out by its head and held up to the distinguished visitor's face. Then followed a colloquy—commencing with the remark of the San Francisco merchant "Here's your *Journal* —the *Journal* from Mysore, which I receive and read." The gentleman who narrated to us this incident added: "I was glad to see your *Journal* so held up to admiration and spoken about." We do not wonder at the interest that Americans show in Journals of our type, for they are on the look-out for learning about us and our attempts at development, moral and material. The *Journal* has had considerable attention paid to it in trade and industrial circles not only in the United States of America, but also in Canada, Germany, Italy and other countries, not excepting Soviet Russia, in which we can even boast of a few subscribers who appear to evince no little interest in its regular supply to them.

In India itself, the *Journal* circulates throughout its length and breadth being subscribed for by the general public and by most of the Provincial Governments and Local Administrations and the leading Indian States. If quoting it with approval in the Reports of Committees is any commendation of its general contents and the ordinary reading pabulum supplied by it, then we need mention only the names of a few of the Committees that have so honoured our endeavours to prove ourselves useful to the country. Among these are the Indian Sugar Committee and the Indian Economic Committee. We should, however, add that ours is not a research *Journal* nor a mere one man's concern. It depends on the co-operation of a number of writers who have made a deep study of their own subjects and who undertake to write on topics bearing on them for the advancement of the public good. This *Journal* was started partly for educative purposes and partly for

the dissemination of sound ideas of economic progress. In this *Journal* it is never our purpose to deal with political questions except, in so far as they affect economic matters, but we have repeatedly urged through it the supreme need of creating machinery for explaining elementary economic subjects to the mass of the people. The country depends —agricultural as it mainly is—for its very existence on the prosperity of its chief industry and its trade and commerce and it seems the height of folly to make no systematic efforts to *bring home to the people the real significance* of our economic position, our trade and commerce and what this vast continent-like country would mean, if properly developed, in *terms of employment* and material *improvement* to our people.

That is the purpose of this *Journal* and it has steadily endeavoured to serve its aims and objects though it might gild the pill at times with the object of driving the lesson home. It was started with that object; it has stood by that object these fifteen years; and it will stand by it so long as it is permitted to work its programme. Whatever might be required for achieving this object will be done and neither pains nor funds will be spared to attain it in an increasing measure in the coming years.

John Stuart Mill, at whose lamp the great Morley said he lit his modest rush-light, once remarked, when somebody complainingly wrote to him as Editor of the *Westminster Review*, that a journal is what those who read it make it. If critics could be contributors, the difficulties of an Editor would soon vanish. So at least Mill suggested. After all, a journal cannot lag much behind its intelligent readers. If they are alert and active, they so much add to its liveliness and upkeep and directly help in the realization of its aims and ideals. Has a journal a soul? asked somebody. If it has, it should stand the test of time. And this *Journal* has stood the test for full fifteen years, and has been during the past ten years conducted as a private personal venture by a believer in its aims and objects.

Since we wrote the above, we have had the following unsolicited appreciation from a source which will be held on all hands as fairly high. Sir Frank Noyce, KT., C.S.I., an old and esteemed contributor to and regular reader of this *Journal*, writing of our June issue, says under date Simla, 7th July 1929:—

"The last number of the *Journal* was one of the best you have ever had, I think. There was a lot of good stuff in it."

That ought to speak for itself and there we might well leave this subject for the time being.

Modern Building Societies.

By A. J. Aitken.

When sunshine comes to show up the defects of the old house, ways and means may be considered of buying a new home. The housing shortage is really a blessing in disguise. Before the war, hundreds of thousands of men went on paying rent for years. At the end of twenty years they thought "If I had started to pay into a building society, instead of paying rent, I should have been the owner of my house and land now." And, with the increase in values, a house bought for £600 might have been worth more than £1,000 to-day. Fathers of the new generation have learned the lesson. Even when "House to Let" becomes as common a sign as ever it was, there will still be more buyers than renters.

It is good to add to the conveuience of a house, and feel that you are adding to the value of your own property. It is good to cultivate your garden, and feel that you are tilling your own land. And after paying a sum equal to rent for a few years—it is good to find that you are a property owner. It must be mentioned that when you buy a house you are not restricted. You can move, if you wish, and you may find that you can sell your house for approximately what you have paid, so that your monthly repayments have accumulated into a nice little sum. However, the buyer of a house does not buy with the intention of selling again, because there is always the risk of loss on a sale, and legal charges must be paid.

Most people who buy property valued at under £1,500 do so through a building society. No sum is too small for a building society to advance. In fact, many societies would rather put two amounts of £500 than one of £1,000. On the other hand, the building society of to-day is powerful, and if a much larger sum is wanted the money will be forthcoming provided that the security is there. It is not necessary to be a member of a building society in order to secure a loan. Let us assume that

you are buying a house for £1,000. You may have little capital available, but can manage £200. The problem of finding the other £800 arises. You could approach your bank, or arrange a private mortgage, or ask the builder or estate agent what he has to suggest. Or you can take your own course and go direct to a building society. A chat with the local representatives of a building society will quickly provide the information you want. After filling in the application form—a matter of a few moments—you will find that things move without loss of a moment. The building society surveyor may agree that the house is worth £1,000. In this case, a conservative society will offer £600, repayments to be spread over 14 or 20 years, perhaps longer. This leaves you with the problem of finding £200. Several methods can be adopted: (*a*) You can get a "cover" from an insurance society by paying a premium. (*b*) The builder or some other person may accept a second mortgage. (*c*) A life insurance policy may be of value. In order to protect its investors, no building society will *lend the full amount of the value of the house.* The amount may be two-thirds of the value of the house, or three-quarters. Under a scheme that has come into operation within recent years a building society acting in co-operation with an insurance company may loan up to nine-tenths of the value of the house, but the borrower must pay a premium for the extra loan, and this goes to the insurance company who "guarantees" him to the building society. From this it will be seen that the loans made to a building society and invested in house property are well covered.

A house that is bought for £1,600 may carry a building society's mortgage of £1,200. This sum, we will say, is to be paid back, principal and interest, over 14 years, working out at about £10 per calendar month. As the borrower repays at the rate of £10 principal and interest monthly, the mortgage is reduced. The average life of a mortgage to-day, in the experience of one famous building society, is five years. The borrower may pay off the cash loaned, or he may sell the house, and arrange with the new-comer to carry on the mortgage, or he may make some other arrangement with the building society. Societies insist, of course, that the house on which they have loaned money shall be fully protected against fire.

LIFE INSURANCE AS SECOND COVER.

It is becoming increasingly the custom for married men who buy houses on mortgage to insure their lives at least to the extent of the money they have borrowed. Thus, a man who borrows £800 on a house may take out a life policy for £800. The period for both mortgage and the policy may be 14 years. If he dies before the 14 years have expired, his wife is able to use part of the money to pay off the balance of the mortgage, and so keep her home together, and have no trouble with rent. If the man lives to the full 14 years he will, assuming that he has taken out an endowment policy, have the sum of £800 *plus* bonuses to come, and he will have paid for his house. Thus, at a comparatively early age, he will become the possessor of a house valued at, say, £1,000, and have in the bank £1,000—virtually independence achieved by thrift over a period of 14 years. His building society repayments during those 14 years will have been about £6. 10*s.* a month, and his insurance policy (£800 *plus* profits) may have cost him £5 a month—a total of £11. 10*s.* The saving of less than £3 per week brings him £2,000 at the end of 14 years. Meanwhile, he has the house, and the life cover, and he is helped to save. *This is quoted as an example of how the* modern building society is helping thousands of men to win financial independence by thrift. It gives them a stake in their country, too. Investors who deposit their money with building societies are helping this valuable work, as well as securing for themselves an investment that is equal to anything else that can be secured. Though the Government has built its million houses, the demand for homes continues to grow, and there is no risk that building societies will have difficulty in placing their funds to advantage. Much has been heard of the prospect that houses will fall in value in the next few years. That any serious fall will come about is unlikely. Should it happen, the building societies will be found to be well covered.

INVESTMENT IN THE BUILDING SOCIETIES.

Building societies now play such an important part in the financial life of the country that their function is second to that of the banks. A bank works on the assumption that only a small proportion of its depositors will ask for repayments of their money at any time. Thus should it happen that for some reason there was a "run" on the bank, even the strongest financial institution would be placed in difficulties for the time being, since the greatest proportion of the money paid in will have been lent to commercial and other undertakings for the development of their business. It is to the interest on loaned money that a bank, as well as a building society, looks for the profits that enable it to carry on its work.

But "runs" on banks and building societies are so very uncommon that we need not consider them. Even at the beginning of the Great War, there was no panic.

Building societies have been an established institution for more than one hundred years now. They have grown steadily in number and financial importance since the year 1800. *The earliest building societies were of the* "terminating" kind: That is to say, the members paid in their money weekly, and one by one they were paid out the full amount—often by ballot. Modern societies may be called "permanent" to distinguish them from these societies. A "terminating" society *ended* when its last member had been paid out, a "permanent" society maintains a constant *flow* of funds inwards and a constant supply of loans outwards. Permanent building societies began in 1846. These really consist of two kinds of members—those who have received an advance on property, or wish to have one, and those who desire no loan on property—that is, investors. Members are permitted to enter at any time without back payment, and loans are granted to any applicant approved by the society for an agreed number of years. As the members take out loans, so new members may be relied upon to come forward and make new deposits. In addition, there are always a large number of members paying back existing loans. This is the system on which the building society works. In 1870 the total assets of building societies were 17 millions. To-day their assets run into a figure which makes that *of 60 years ago look tiny.*

The efficient management of the modern building society, the valuable service it renders to the community, and the specially advantageous terms it offers to investors, make it worthy of the consideration of any man or woman who has money in any amount—small or large—to invest. At the same time the man who has no money to invest, but wishes to borrow, should not hesitate to approach any society. Without borrowers, the money of the lenders would have no value. Legal charges need not worry the buyer of a house. The solicitor to the building society will, if you wish, make all these arrangements for you. Of course, your own solicitor's advice must be valuable, but where economy in legal charges is to be considered, and the property is small, the solicitor to the building society can do it all.

Economic Aspects of Co-operation.

By the Editor.

Political Economy deals with human well-being, *i.e.*, the well-being of people at large. This well-being is secured by satisfying wants. It is, therefore, a science that deals with man as he is and not as an abstract being. Much of *the prejudice of the early days against political* economy was due to the latter idea that it dealt with man as moved only by the impulse of self-gratification based upon competition. Ruskin's famous protest, recorded in *Unto This Last*, refers to this impression of Political Economy. Therefore it is that the Science is now-a-days called the Science of Well-being. Wealth means not money but well-being; money or riches is only a means to an end. A science that deals with man's well-being in its broadest aspects cannot be a "dismal science" but the "Science of Hope".

This Science deals with man in his three-fold capacity of one responsible for (*a*) Production, (2) Distribution, and (*c*) Consumption. It is not our purpose to-day to go into these different topics. It ought to suffice if it is stated co-operation in its fundamental aspects has to do with this three-fold character of the science of Political Economy.

Production and consumption of wealth are closely inter-related. Consumption affords the motive for production and production affords *the materials and services for consumption.* Consumption renders production necessary and makes it possible. Production consists of the imparting of "utility" to goods that can satisfy human wants. So production is limited in certain ways: the utility of goods and the cost of procuring them. Production, therefore, means the creation of utilities as consumption means their destruction. Production is the application of Labour to Nature, for instance Land. The result of this application of Labour followed by the postponement of the enjoyment of the result of the Labour, is Capital. Thus, we have the three elements of Production, Nature (Land, etc.), Labour and Capital. The first two are primary factors and the last is a derivative or secondary factor. Production in modern society is highly organized. Production of wealth originally depended on the individual (or the single

entrepreneur as he is called) who owned or hired the capital and land and employed labour and bore the whole risk. In other words, it depended on what each man by himself laid by as the result of his personal exertions or raised by his personal credit. Then followed Partnership, Business Companies and finally Co-operation. Co-operation has been called by Economists Co-operative Production. Co-operation has extended the scope for credit and for the creation of capital. This is so when we consider co-operation from the credit-creating point of view. It is possible to-day for the poorest man, provided he will only act up to what is required of him as a man, to obtain the necessary capital for the production of wealth. This is by means of co-operation, *i.e.*, joint credit. One instance ought to do. In the middle of the 19th century, German peasants were so heavily in debt to money-lenders that they hit on co-operative banking as a means of escape. In India, we have already had opportunities to realize what we could attain through co-operation in the furthering of rural well-being by means of credit co-operative societies. The work in this field is still immense, *but the more we give attention to it the* greater is Production pushed forward. Here is a true remedy for unemployment—both for the lettered and the unlettered. In agriculture, co-operation has an unlimited field. In America, co-operation looks with pride to what it has achieved among Canadian wheat and Californian fruit growers. Though even in *Great Britain, co-operative marketing has met* with obstacles, still it has many a lesson to teach to us. What is required is mutual unity and mutual helpfulness; *if that is attained*, there is reached the very essence of co-operation. A true co-operator is a social engineer who realizes his power as a human being and who in his generation has grasped the full meaning of social responsibility. The question for him is: How to apply the enormous and ever growing new scientific powers for producing wealth, beneficially for the entire population. The answer in this is as Owne, the father of Socialism in England, pointed out:—**Treat man with the care you bestow on machine and he will respond even better than machines. Let us lay the lesson to our hearts that man is not to be treated as an insensate atom but as one possessed with feelings, desires, emotions and the like.** It was because this primary point was not remembered after the Industrial Revolution in England, and the labouring classes were treated as if they were something less than human—the exalted philosophy of *laissez-faire*, which put the individual above the State and deprecated the interference of the State was responsible for this that the working man believes that Political Economy was against him and compelled him, in his turn, to declare himself against Political Economy. This view of Economics has been dispelled within the past half a century or so, both by the increasing power assumed by the State in the Legislative field in favour of the labouring classes and by the writings of theorists in Political Economy, notably by John Stuart Mill. The labouring classes themselves have, by the aid of co-operation, endeavoured to do away with what has been described by one Economist as the "despotism" of the great mercantile and manufacturing associations. Here the co-operative principle has been applied in two ways: coercive or voluntary. Coercive co-operation is socialism. Voluntary co-operation is the co-operation which we refer to in ordinary parlance. Under the voluntary system, workmen combine their own capital, purchase their own plant, and manage their own industrial affairs, in their own way, at their own risk, showing profit or loss as the *case may be. This is what Economists call* "Co-operative Production". With this kind of production has come into vogue what is called Distributive Co-operation, which is a system of co-operation in wholesale or retail trading. I need hardly add, that the term Distribution is here used in a sense different from the one that it is used in Economics. The *term "Distribution" as used by Economists* deals with the distribution of the income of society, especially among the factors or agents *which have entered in its production. It is* used here exactly in the sense in which we speak of the merchants' business as distributive. From one point of view, distributive co-operation—which is common to our own industrial and trade co-operative societies—is only an imperfect form of co-operation. Consumers of finished goods combine to purchase what they need, and thus they save the middlemen's profits. They form a Company, subscribe for shares, employ a manager and clerks—who often do not share in the profits—and start a business. Profits are sometimes divided only on the shares, but the approved mode is to pay a moderate interest on the capital and then divide profits among the consumers. The latter is what we do in our societies. In such cases, the customers share in proportion to their purchases, the division being made at stated intervals. In England and Scotland distributive co-operation has been

attended with great success. In these countries wholesale societies have been formed to aid distributive co-operation. These societies, it should be added, provide a steady market for important productive co-operative concerns which they have organized and supply the retail stores with the goods they stand in need of. In England, the consumers get all the profits derived by them.

Co-operative production has, however, not come up to expectations. France has had greater success in this form of co-operation than England. In the United States, some instances of success have been recorded and many more have been at least partially successful. In this country, we are still in our infancy in this sphere and increased effort is necessary if we are to succeed. Its primary advantages are: it promotes thrift, stimulates energy, encourages initiative, supervision is sound and beyond all these it is constant education to co-operators in discipline and business detail. But a few drawbacks should be guarded against. These are: divided counsels, need for expert talent for securing supervision and organization, moral defects of workmen, which may result in failure of the enterprise undertaken, and finally prosperity in the initial stages leading to dissension and disintegration. These have to be borne in mind and provided against from the start. What is required is genuine goodwill in the promoters and a spirit to achieve for the common good what might be possible by combined human effort. High ideals and prudence are, in short, what are needed to overcome the weakness of the system. Industrial democracy (as opposed to industrial despotism) means something more than a desire to eliminate the capitalist, whether the single entrepreneur, a partnership, or a Business Company. It seems self-rule, self-control, self-direction, by the workmen (or those combining) in their efforts to gain a livelihood. This can be achieved by pure Co-operation, as experience has shown it could.

I have referred above to Coercive Co-operation as Socialism. A few words may be said on this topic. The existing social organization, of which Political Economists treat, has for its economic basis the recognition of private property as it exists among all modern civilized nations. It is, therefore, admitted that in the large majority of cases private proprietorship, *i.e.*, private appropriation, is not only to be allowed but also to be actively encouraged. Socialism propounds a fundamental change in the structure of society. If accepted, the complexion of economics as it is understood to-day—under the four heads, of Production, Consumption, Exchange and Distribution—would be greatly affected, if not altered. But apart from extreme theorists—who in the recent Post-War period have had considerable vogue—Socialists have urged, not so much a radical change in the social organization as a change in the distribution of the social income to remedy the existing evils. In their order of things, labour and wages would be specially affected. Socialists as such do not object to all capital, but only to the private capitalist. Their suggestion is that labour creates all wealth. With a better regulation, there would be—so they say—better distribution. Their cardinal point is distributive justice. They want in a word coercive co-operation at the instance of the State. This Coercive Co-operation is not restricted by them to undertakings of a merely monopolistic nature but is extended to all important productive enterprises. As one leading economist has put it they "seek the establishment of industrial democracy through the agency of the State which they hold to be the only instrument for accomplishing their end. They would expand the business functions of Government until all dominant kinds of business are absorbed. They would have all such business regulated by the people in their organic capacity, every man and every women having essentially the same rights as any other man or woman. Our political organization would become also an industrial organization with universal suffrage." This would mean, as can be perceived, an increased concentration of a very large part of property. The socialists' urge of productive property is not yet sufficiently concentrated and hence they do not object to the formation of trusts and combinations, which they regard as a development in the desired direction. There it is they differ from the followers of voluntary co-operation who sense evil in such combinations and have actually fought against them. Whatever may be the objections that might be urged against socialism, it has to be acknowledged that it has forced attention to pressing social problems. It has made people seriously reflect on the conditions of the less fortunate classes by quickening our consciences and helping us to form the habit of looking at all questions from the standpoint of public welfare and not merely from that of individual gain. More than all this it has compelled Governments to give more attention to their industrial functions, thus "leading us and aiding us to separate rationally the sphere

of private industry from that of public business".

Before I conclude, let me refer to voluntary co-operation once again. The co-operative movement has broken new ground in recent years. In England, under the Act of 1911, it has engaged in national health insurance and at the same time greatly extended its business and general insurance. Possessing many employees as well as millions of consumers among the member stores, the federal wholesale society is able to encourage social insurance as a unity. Possessing also an unassailable financial standing as the result of its success in co-operative trading, it is a strong unit of enterprise as any single company in the world of trade or insurance. The successful work done by the Health Co-operative Wholesale Society since July 1912 reads like a romance. So successful has its operations been that it disclosed a surplus of £7,42,000 in 1927 and was thus able to announce a larger increase in benefits to its members. Similarly the co-operative insurance society has had a remarkable career. Its premium income rose from £1½ million in 1917 to £3.2 millions in 1926.

It may interest many to know that its business includes motor and cycle insurance. The new ideal is that each new social waut shall furnish its quota to co-operation. Let it be insured through it, if it is not sold by it; if it is not made by it, let it be sold by it. That is the idea underlying the work of the Co-operative Insurance Society. This society has its headquarters at Manchester and has branches in principal centres and there are 168 district offices in the smaller towns of England and Scotland. Under its wings, the poorest can insure their lives: lack of means is thus no excuse now for not insuring one's life. A point worthy of note is that it employs full-time agents who rose from 60 in 1914 to over 2,000 in 1926. Similarly, the Co-operative Wholesale Society Bank serves the purposes of a Bank for co-operative societies generally. It has, in fact, become the clearing house for the commercial transactions to which co-operative trade gave rise. In December 1925, this Bank had 20,000 current and 25,000 deposit accounts. It reaches its customers, bodies or individuals, through the co-operative store in their locality. One word may be added by way of suggestion. In this State we have a state life insurance system. The unity of effort claimed for State Insurance would be paralleled by the unity which the co-operative movement would attain to by building harmoniously, on its own part, as it has, indeed, done in England. The benefits of insurance would be extended and not diminished by this co-operative effort.

Another line of activity in which co-operation has achieved success is what is called labour co-partnership. In the textile and leather (boot and shoe) trades, this has had a notable achievement. Factory life is avoided; liberty is retained; competition is effectively maintained. The greater portion of the output is sold to the co-operative store and so there is no rivalry between the store and the labour co-partners. For those who seek to aid the textile and leather trades, here is inspiration available if they will only have it.

In England, the co-operative movement has had to face time and again the hostility of traders. Again and again, the charge of price cutting—through the co-operative dividend—has been preferred. Attempts have been made to subject the co-operative dividend itself to taxation, but so far without success. The famous fight of the late Lord Leverhulme in 1906 has passed into history and is not likely to be repeated.

The hope of the movement has been its capacity for aptability. It tried education when it was not general and succeeded. But when the State entered the field, it tried new channels of activity. The scheme of co-operative studies which is guided from the Co-operative Union at Manchester is well worth mention. Some such college of co-operation seems necessary in India. Co-operation has become in England a State within a State and as such has become a training ground for self-government. It is probably the best school for self-government now available. The business has become so vast in certain of the largest stores that there is a salaried full-time Directorate. Co-operative societies in England have been fast developing a labour problem of their own. In 1925, there were over 200,000 men employed by them and they employed certain privileges. Difficulties have arisen and even strikes have not been unknown. Hence there is need to note the point in passing as we ought not to miss possibilities of the kind in this country.

Co-operative farming has not been successful owing to failures. It has been urged (before the Co-operative Congress in 1926) that societies should abstain from general farming and concentrate on the supply of commodities which their own districts can easily sell to their members. A notable step taken to interest rural people in co-operative societies and help them to join the societies deserve to be mentioned. It is to get small farmer to join a society and supply it with butter, ghee,

fruit and vegetables and spend the proceeds if they so desire at the Stores Society. The society has numerous shops in the town it is located in and the vans and motor lorries which deliver bread to the branches collect farm produce in return.

These are aspects of co-operation which have not yet been developed in this country. With greater earnestness in our growing number of co-operators, we may look to a quickening of the movement in the directions in which it is bound to prove a success.

Economics treats, as I have said, with human welfare and no part of it touches more directly human welfare than those parts of it which voluntary co-operators have made it their own. In this domain, there is much yet to be accomplished and it is to be hoped that in the coming years we will see a marked advance made by co-operators all over India.

[For further information, the interested reader may be referred to the following works:—J. S. Mill's *Political Economy* and *Autobiography*; C. R. Fay's *Great Britain from Adam Smith to the Present Day and Co-partnership in Industry*; R.T. Ely and G.R. Wicker: *Elementary Principles of Economics* (Revised by L. L. Price). R. T. Ely's *Socialism and Social Reform*; J. Rae's *Contemporary Socialism*; T. Kirkup's *History of Socialism, etc.*]

Aeroplanes at £300.

By Harry Harper,

Author of "Twenty-Five Years of Flying".

June 1st, 1929.—Not long ago, if anyone had said that any organization would be in a position, during 1929, to place a single order for more than 50 fully-equipped aeroplanes for purely civil use within this country, he would have been regarded as an incurable optimist. Yet such is the wonderful progress which British aviation is now making that an order of this magnitude has actually just been placed. And not only is it for more than 50 machines—54 to be precise—but it is merely a beginning of considerably larger orders which are soon to come.

The organization which requires and has ordered these aeroplanes is National Flying Services, Ltd., and the machines are to form the first of a fleet to be dotted about the country at the aerodromes the Company is now beginning to equip. Simmonds "Spartans" and Blackburn "Bluebirds" are the little craft which have been selected to form the nucleus of the Company's fleet which, when it is complete, will number approximately 100 machines to be used in private, pleasure and air-taxi work.

Air Expresses.

Such an order as this shows, in a convincing way, what practical strides the British aircraft industry is now making. This vital industry, after struggling through a period of post-war depression, is indeed now going ahead in a way which is remarkable. Before I began to write these lines I visited several up-to-date factories where British aircraft of various types are under construction, and I found that it is not only in respect of light aeroplanes that activity now exists. Many valuable orders are being executed for aircraft far larger and more powerful. Airways throughout the world are now demanding new and improved "flying stock". Australia, for example, came to this country not long ago and placed orders for a number of large transport-type air machines. Imperial Airways, our national company, is needing and has ordered from the British industry new "air expresses" of bigger, more powerful and more silent types. I was present at the London air-station the other evening when one such new machine was delivered by air from the factory in the Midlands where it had been built. An aeroplane of a truly impressive size was carrying as many as 20 passengers in addition to its working crew. And even such a flying craft as this, with its 3 powerful engines, will be considered quite small by the time another year or two have passed. In the big works of the Handley Page Company at Cricklewood, preliminary designs are now in hand for a fleet of super-giant passenger-planes which, ere long, Imperial Airways will be using regularly on routes extending not for hundreds but for thousands of miles. If, when we were beginning commercial aviation in 1919, anyone had said that by 1929 we should have reached the design of such huge-winged machines as these, he would have been held to be indulging in a quite fantastic flight of the imagination. Yet as many as eight of these aerial monsters are definitely on order, and before long the first of them should be undergoing its preliminary trials. Four engines, developing a total of

2,000 horse-power, are tó drive each of these super-aircraft, and in their fine saloons, as large as the interior of any Pullman-car on the railway, luxurious accommodation will be provided for as many as 40 passengers.

Traffic to the East.

The extension of British airways eastward across the Empire is not only calling for larger aeroplanes of a land type, but it is also giving *an immense stimulus to the design of big multi-engined flying-boats.* Already, on the Mediterranean section of the England-India air-line, Imperial Airways are using with success several metal "Calcutta" flying-boats, driven by motors developing 1,500 horse-power. More of these machines will be needed as further extensions are opened up, while some new flying-boats of an extremely interesting type are to be employed on certain sections of the trunk air-line between England and South Africa which, it is hoped, will be in regular operation some time next year. These new machines are to be giant monoplane boats which, in many respects, *will open up a new era in marine-type aircraft.*

Many British air firms are busy with wonderful machines which they are to show at the great Aero Show which is to be held at Olympia in July. Not the least interesting of the craft to be seen at this exhibition will be a tiny folding seaplane designed and built solely for use by large ocean-going submarines. Great attention has been paid recently to the production of a really practicable air machine for carrying in a submarine. The little "pocket-plane" which will be on show at Olympia, and which is known as the Parnall "Peto," folds up almost alike a conjuring trick into an astonishingly small space. And when it is required it can be unpacked, put together, and launched in a few minutes.

Motor-Cycles of the Air.

One's visits to air-works now-a-days show what strenuous efforts designers are making to produce little popular-type air-craft to sell at lower prices than those prevailing at the present time. At flying clubs throughout the country members who have learned to pilot light aeroplanes, and who are desirous of buying a machine of their own, now demand some simple little craft selling at a quite moderate figure. To-day a light aeroplane *of an established* make, *carrying* two people and their luggage, costs, say, from £620 to £650. This many people of moderate means consider too much. They say they want something at about £250 or £300. Col. G. L. P. Henderson, a well-known British designer, constructor and pilot, has created a great deal of interest just lately by producing and flying successfully a little single-seater monoplane—a sort of "motor-cycle of the air"—which he is putting on the market at £350. Such a machine will be extremely useful at air clubs to enable pupils and members to obtain solo flying at economical rates. It should also appeal to keen young men who want something in the nature of a flying motor-cycle. But the main demand is for a small 2-seater type of aeroplane in which an owner-pilot can take a friend for a flight.

Excellent Outlook.

The prospects are now excellent, as a matter of fact, for the production of light aeroplanes at prices considerably less than those that prevail at the moment. One of the chief items of cost is the engine. Hitherto light aeroplane motors *have* only been turned out in small quantities. Hence their price has been high. But to-day it is becoming possible to put in hand quite large batches of low-powered aero-engines. And the consequence is a very definite fall in price. This enables aeroplane designers to recast their estimates for the cost of complete machines. Plans are well advanced, for example, for neat little craft, carrying a couple of people and their week-end luggage, and costing not more than about £500. And this is considered but a stepping-stone to reductions of a still more definite character. The ideal which is being aimed at, but which it may not be possi*ble to reach, perhaps, for some little time, is to* put on the market, complete and ready to fly, a small 2-seater air-car costing not more than about £300. Even £250 is spoken of as being possible. Remembering the ground organization for popular flying which is now being created throughout the country, and bearing in mind also the number of people who are learning to fly at the various clubs, it is reckoned that a little low-priced air machine of this kind, easy and safe to fly, and cheap to operate, would sell in very large numbers.

The amount of matter in solution annually poured into the Gulf of Mexico by the Mississippi, is estimated at 150,000,000 tons, at which rate one foot of land over the whole basin would be removed in 4,000 years. Similar calculations applied to the St. Lawrence, La Platta *and the Amazon, show that 100 tons* per square mile are removed from the American continent every year. It is calculated that not less than one cubic mile of earth is deposited every year in the Atlantic from America, Africa, Europe, and Asia.

The Stockholm Conference on Industrial Co-operation.

By Johan Richert.

Actuary to the Swedish Board of Social Welfare.

The conference for the promotion of better relations between capital and labour which was held at Stockholm towards the end of last year, on the initiative of Mr. Lubeck, the Minister of Social Affairs, was not a mere spectacular display, doomed to pass into oblivion as soon as public interest is diverted to other shows. This statement is borne out by the fact that local discussions on industrial co operation are still being arranged from time to time in various parts of the country. This Conference which, in some quarters was viewed with considerable scepticism, was evidently a master-stroke of social policy, made just at the psychological moment.

Peaceable tendencies hold sway in the Swedish labour world. The negotiations regarding the renewal of collective agreements* which were carried on towards the end of last year on an extensive scale, were settled in almost every instance without any strikes or lock-outs or even a threat of hostilities. In some industries of principal importance, such as the engineering workshops, agreements between unions of employers and workers were concluded with a validity of two years, instead of, as usual, only one. It seems in fact as if the responsible leaders of the powerful unions on either side were disposed to maintain peace for a considerable time ahead.

The tendencies towards peaceful and amicable co-operation between employers and workers appear to have been stimulated by the prosperity of Swedish industries in recent years. The Swedish working-man has acquired, willy-nilly, a kind of sneaking admiration for the ability of his employers. The more intelligent among them have been prompted to suggest improvements, though, of course, primarily with an eye to their own interests. Sensible employers, on the other hand, have realized that, in periods of prosperity, it is well worth their while to maintain amicable relations with their workers.

The proceedings of the Stockholm Conference —which have been officially published and are well worth study—have thrown a good deal of light on what is needed if amicable relations are to be established between capital and labour. Special interest attaches to reports of the satisfactory results already attained in some of the more important industrial establishments.

It was reported, for example, that the directors of a large machine shop for several years past had arranged periodical conferences with representatives of the workers' club for the discussion of questions relating to terms of employment and other labour conditions. These conferences had conduced to stimulate the men's interest in their work and in the welfare of the company. It is noteworthy that the disorderly spirits among the workers, whose energies were otherwise apt to find vent in communist agitation, displayed no less interest than the others. The workers had made various suggestions for new devices which had been approved by the management. These devices had not merely benefited the workers but had also redounded to the advantage of the company. Even such matters as complaints against foremen, etc., had occasionally been taken up for amicable consideration. In some cases, where the complaints were of a serious nature, the directors had not hesitated to discharge the offending foreman. In most instances, however, the grievances were shown to be devoid of real foundation.

At another engineering workshop, conferences of engineers, foremen and workmen had been held at regular intervals to discuss matters relating to organization or technical improvements. This workshop had been gradually reorganised on a modern scientific basis. One of the improvements introduced was a system for controlling the time taken by work with a view to the fixing of piece rates. The manager of the workshop tells us that these innovations would not have been possible without frank co-operation between directors and workers. "It is," he says, "absurd to suppose that a workman can be hounded into taking an intelligent interest in these new time-controlling methods. If he is to submit without demur to the annoyance of having a man with a watch and notebook dogging him for weeks, he must be brought to understand that the object of the control is

* Agreements between unions of employers and workers regarding wage tariffs, etc.

not to 'cut stripes out of his back', nor to reduce his earnings. The very necessity for explaining one's motives must eventually lead to closer co-operation, better understanding and increased interest." One of the workmen at this very workshop testified before the conference that he and his fellow-workers had come to believe in these modern devices. He had heard no complaint of reduced earnings owing to the adoption of the system for controlling time.

Satisfactory results were likewise reported from large iron works, where similar scientific methods had been adopted. Here everything possible had been done for the comfort and welfare of the workmen. The directors had moreover arranged lectures, courses, debates, etc., for the purpose of initiating the workers into the *economic and technical bases of the business.* Not only the manager of the workshop but also one of the workmen in his employ expressed their satisfaction with the way in which this system had worked.

These bright and optimistic reports were thrown into sharp contrast by other statements made at the Conference. A metal worker who had been employed in various workshops had had quite different experiences in regard to the working of the system for controlling time. He had seen that the managers were only too eager to cut down the piece rates. "In many quarters," he said, "it is regarded as self-evident that the standard of life of industrial workers should be considerably lower than that of other sections of the community." Such an attitude on the part of the managers was by no means conducive to friendly co-operation. The workers, moreover, were often needlessly irritated by unfair treatment at the hands of the foremen. "In many workshops and factories," he added, "indeed everywhere, there is a regular system of patronage and favouritism which scarcely conduces to make a man love his work." The good examples which had been set by *some industrial establishments* had convinced him that happy co-operation between managers and workers was not a mere utopia. But he had far too often observed in his chiefs a high-brow attitude which seemed to say "the workmen, whose services we have purchased, must submit to us without any regard to their own feelings or any reflection about the business which gives them their bread and butter, and should look up to the managers as infallible." He concluded these bitter observations with a reminder that "even a workman can think".

Other workmen who took part in the Conference recounted experiences trending in the same direction. One of them remarked: "During my long service I have rarely come across an employer who has given me a single word of recognition. But the few occasions on which this did happen were a most delightful surprise."

A study of the proceedings of the Stockholm Conference gives one the general impression that the relations between employers and workers in Sweden, as presumably in all countries, varies greatly at different establishments. Much obviously depends on the personal qualifications of managers and foremen.

In alluding to the qualifications of the foremen, we have touched upon one of the most difficult points in the problem of industrial organization. The words of whole-hearted praise which rang out from various quarters at *the Conference indicate that many of the foremen* employed in Swedish industrial establishments are most capable men. But there were also many adverse comments. Too much weight should not perhaps be attached to a statement from labour quarters to the effect that employers usually select as foremen persons who will cringe to them, or that the industrial workers in Sweden often have to work under foremen who "haven't the slightest inkling of their job". But even some of the employers intimated that the managers of Swedish industrial companies had by no means always been judicious in the selection of their foremen. The lack of psychological insight which is sometimes said to be characteristic of us Swedes has doubtless been to our disadvantage in the industrial world as in other spheres.

To sum up, the Stockholm Conference gave vent, in a salutary way, to much honest dissatisfaction, but also accentuated an earnest desire on both sides to attain more harmonious relations between employers and workers.

The following characteristic statement of a workshop hand deserves to be quoted:—

"I hope I shall not be thought indiscreet if I add a few words about the establishment where I have the honour to work at present. I have *served at the same place for several years* under two different managements.

The first managers seemed to regard it as their mission to irritate the men from morning to eve by all kinds of annoyances and pin-pricks which resulted in a *regular guerilla* warfare at the workshop. One strike followed the other. Fortunately, however, the company went bankrupt and was reorganized. New managers came in, men who had a wide social outlook and knew how to handle the

men. The company was started six years ago with a staff of nineteen hands. We are now four hundred and our employers are doing everything compatible with the interests of the company to promote the welfare of the workers. We go joyfully to our work and we heartily cheer any success, great or small, that the company can score."

This statement brings into clear relief what lies behind the new tendencies in Swedish industry which have found expression at the Stockholm Conference. The endeavours which are being made to promote better relations between employers and workers are, in fact, ultimately based on the increasing confidence on both sides in the great possibilities of Swedish industries. When the legalization of the eight hours day was under discussion representatives of the workers predicted with assurance that Swedish industries would be able to adapt themselves to the new conditions. These predictions have not been disappointed. The Journal of the *Swedish Employers' Federation has itself testified* that Swedish industry has been able to bear both the enforced reduction of the hours of labour and a relatively high level of wages. The credit for vanquishing these difficulties is due primarily to the able managers of Swedish industrial companies. This well-merited success seems to have surpassed what the directors themselves could have dreamt of some ten years ago.

And the workmen are finding that the promises which they held out have been fulfilled almost too amply. Fears have been expressed lest the rapid pace at which industrial production is being modernized may result in unsecurity in the tenure of employment. It is demanded with good reason that all possible consideration should be paid to those who are thrown out of work during the period of reconstruction. But there seems to be no serious opposition to the actual adoption of modern scientific methods in Swedish industrial establishments. Both parties, at any rate the more far-sighted, appear to be conscious of the fact that the welfare of all is best promoted by earnest and systematic collaboration in the service of productive enterprise. The first step to be taken is to eliminate the psychological impediments to whole-hearted co-operation, and experience shows that this is by no means impossible.

Much will be gained for the promotion of peace in the labour world when negotiations between unions of employers and workers are conducted in such a spirit that both parties disdain any attempt to deceive the other side. On that subject many wholesome truths were said at the Stockholm Conference.

Indian Caste System: A Study—II.

By the Editor.

It is possible to imagine a period of time in the history of South India where there were no Brahmans in it. The Brahmans were introduced into it, according to traditions, about the 3rd century A.D. But it is probable that there were already some in the country at the time of, or prior to, the Buddhist king Asoka whose inscriptions (3rd century B.C.) have been found in the State. At any rate it is inferable from lithic inscriptions found in the Mysore State that the Brahmans were in the country by about the 1st century A.D. Before their advent what was the nature of the social order that prevailed? In what terms should we describe it? This is an interesting question but it is hardly possible to pursue it here. It is possible that the people were already divided into tribes as among all primitive societies. They had probably also developed guilds based upon hereditary occupation. It is not impossible, too, that they had by themselves evolved to some extent the priestly office as well. The effect of the higher type of religion brought into their midst by the Brahmans had probably the effect of exalting the priestly office to an extent unknown before in the land and of strengthening belief in the hereditary nature of the occupation. In course of time as social intercourse increased in diverse ways, this principle should have received support by the elaboration from the theories of Brahmanical text-writers and legists—like Manu, Bhandayana and the rest—of a set of rules, regulating marriage, intermarriage, declaring certain kinds of foods and occupations to be impure and polluting and prescribing conditions and degree of social intercourse between the several classes of people.

"Add to these the pride of social rank and the pride of blood which," as Sir Denzil Ibbetson observes, "are natural to man and which

alone would reconcile a nation to restriction at once irksome from a domestic and burdensome from a material point of view and it is hardly to be wondered at that caste should have assumed the rigidity which distinguishes it in India." It undoubtedly should have taken ages for this rigidity to become an accomplished fact. First Jainism and then Buddhism, both of which are known to have flourished in the State from about the 4th century B.C. at least must have impeded caste development itself to some extent. But the decline of these faiths and the practical reassertion of the Vedic faith by the renowned Sankaracharya (8th century A.D.), who made Sringeri in Mysore his chief pontifical seat, must have been followed by a silent reversion to, if not a re-establishment of, the old social order. The Virasaiva revival under Basava in the middle of the 12th century A.D. was no doubt a protest against the growing caste spirit in the land. That this movement which started not far away at Kalyan, in the Kannada country, found many adherents in the State including the Rajas of Mysore and Coorg and numerous minor chiefs, shows the appeal that it made to the popular mind. The revival of Vedic faith which had ere this begun in the State with the advent of the Vaishnavite reformer Ramanujacharya (12th century A.D.), who had sought refuge in the Mysore country from the persecution of the neighbouring Chola king and had converted the local Jain king to his faith and founded his seat at Melkote, near French Rocks, was signalized by the partial wiping out of caste inequalities. Apart from his philosophical teachings, Ramanujacharya in keeping with the times, preached a social equality which imparted a new vitality to the old Vedic faith. In this he no doubt built upon the older foundations of his precursors, Alvars, who had scoured the country and preached the religion of love to all in the land. Vaishnavism checked by its very concession of practical, if only partial, equality of all persons, made caste lose not a little of its old vigour. A similar effect was produced by the teachings of Madhvacharya (13th century) who taught equality was to be cherished not merely in the social sphere but also in the religious. He held that Siva and Vishnu were equally adorable and that devotion to God enabled everyone to attain salvation. He forbade altogether animal sacrifices, thus absorbing into the old Vedic religion the most practical part of the decaying Jain and Buddhist faiths. There is reason to believe that for at least the next two centuries and a half (1336-1565) during which the Hindu kings of Vijayanagar bore supreme sway over the whole of Southern India, including the Mysore State which was ruled over by one of their Viceroys, caste must have been an intolerably bearable sort of institution. Inscriptions show that these kings were as supreme in religious and social matters as in political. As the Cholas had done before them, they relaxed the restrictions of caste in the case of the people who rose in social scale. They even remitted in their cases certain taxes which, as members of the castes to which they belonged, they had to bear. The break-up of the Vijayanagar kingdom by the conquest of the south by Muhammadan rulers from the north tightened and strengthened rather than relaxed the bonds of caste. This conquest deprived the people of the support of their own time-honoured rulers in the settlement of their social and religious questions. Brahman expounders of law and usage lost the services of the curt authority to which they have long been accustomed to look for sanctioning a necessary change in religious or social matters. These changes were issued not infrequently in the guise of civil or political edicts or charters granted to the leaders of particular castes. What the religious movements of the many centuries preceding the Muhammadan advent had done in softening, if not entirely breaking, the fetters of caste, was, as it were, lost. The hardening of social bonds has been continued in a more pronounced form since the consolidation of British rule in India, a rule which has made religious neutrality a basic principle of its political policy. Society soon reached a stage of arrested development in which no voices were heard except those from the tomb. Natural re-adjustment of social difficulties becomes all impossible in the new condition of a Hains. People thus left to their own resources, had perforce to improvise remedies to meet difficulties that arose from time to time. In the absence of civil authorities interested in social and religious matters, they naturally looked to the Brahman as the leader of society, for a way out. In cases in which he formed unaccommodating—and there were many—they organized themselves on new lines and challenged the supremacy of the Brahman himself. Even those who professed to belong to religions which originated in a protest against caste as such took a line diametrically opposed to their tenets. The further desire of many castes to come under the one or the other of the four traditional castes of Manu has also been strongly marked. These and other tendencies which ended in hardening caste and making it

more burdensome have been frequently referred to by Census Superintendents of Mysore and Madras.

The tendencies above referred to testify to the vitality of Brahmanism—understanding by that term the system of social and religious belief *which places the Brahman at the head*—in Mysore as anywhere else in India. They cannot but recall the oft-quoted words of Sir Alfred Lyall in which he describes how Brahmaism has been silently absorbing the many millions of India. He traces the proselytising tendency of Brahmanism to three causes all of which have had—and are still having even now—their effect in Mysore. These are: (1) That it *is indigenous, the produce of the soil and of the environment that still exists. (2) That it is* a social system and a very elastic one; while the people of India as a body still need a religion which like Brahmanism provides them with social rules, with laws of custom as well as of *conduct. (3) That it encourages and* is nourished by a constant miraculous agency working at full pressure and by relays of divine embodiments, while in the present intellectual state of the population in India no religion will *be widely embraced without visible miracu*lous credentials. Sir Alfred adds that "it may fairly be conjectured that these characters are likely to keep Brahmanism alive in India for several generations to come. No *one need doubt that it is gradually becoming* purged and refined but this is a process through which all popular religions pass; and they are not always extinguished by it." The actual process of absorption into Brahmanism, "the *Brahmanizing of the original non-Aryan or* casteless tribes" is thus described by him:—

"The clans and races, which inhabit the hill tracts, the outlying uplands and the uncleared jungle districts of India, are melting into Hinduism all over India by a process much more rapid and effective than individual conversions. Among all those aboriginal or non-Aryan communities a continued social change is going on; they alter their modes of life to suit improved conditions of existence; their languages decay, and they gradually go over to the dominant Aryan rituals. They pass into Brahmanists by a natural upward transition which leads them to adopt the religion of the castes immediately above them in the social scale of the composite population among which they settle down. *And we may reasonably guess that this* process has been working for centuries, though it is likely to have been much more rapid than ever under *British Rule.* The '*Ethnical Frontier*' described in the Annals of Rural Bengal is an ever breaking shore of *primitive beliefs which compel constantly into the* ocean of Brahmanism; and when Mr. W.W. Hunter in his dissertation on the Non-Aryan languages in India describes the gradations by which the acknowledged non-Aryans of the highlands slide into low caste Hindus of the plain, he describes a transmutation that is going on all over India. In Central India it has certainy gone very far, with a speed that seems to increase. In the interior of the Eastern Himalayas the Buddhist dispute with the Brahmans over the mountain clans and the sparse families that live in the *habitable glens*; but on the southern slopes, and in the jungles that spring the bases of the hills, the Brahmans are prevailing unopposed. For all these *tribes, by becoming Hindu, come under the Brah*mans; and whenever they have succeeded so far as to found a State as the Gurkhas founded Nepal they *have established the predominancy of caste and* creed as a State religion. The number of converts thus added to Brahmanism in the last few generations es*pecially in this country* must be immense: and If the word proselyte may be used in the sense of one who has come, and who has been readily admitted, not necessarily being one that has been invited or persuaded to come, then Brahmanism might lay claim to *by far the most successful proselytising religion* of modern times in India.

Thus Brahmanism is all over India a necessary first stage for the outlying tribes towards Indian civilization, or admission to the citizenship of the great Hindu community; it very rarely implies any ethical chance, or even a formal abandonment of one ritual for another; it is usually a rapid sliding into Hindu customs and an attempt at social assimilation. But the complete process thus necessitates a considerable change of worship and race of life; for perhaps the surest sign of a family reception into Brahmanism, that whereas the Brahman formerly was never called in, he is latterly found officiating at domestic epochs and ceremonies, of birth, marriage, or death. This implies conformity to Brahmanic rules of eating, intermarriages and the like, and the evolution of a caste or *sub-caste. If the converted family are standing* among their own people, the Brahman for a consideration proportionate to the emergency of complexity of the case, will usually discover for them a descent Hindu pedigree, or (what is much easier) a miraculous incident which proves a half savage chief or rich outcastes to be really allied to one of recognized castes. We know how readily the Gods are always intervened to explain away awkward incidents of birth and provide a great man of humble origin with a parentage better suited to the success. Thus the Gond chiefs of the Central India highlands all now claim Rajput ancestry, and have ranked themselves in the soldier caste. In aspiration they are now Hindus of the Hindus, some of them carrying ceremonial refinement to the highest pitch of purism; but nevertheless they are really no better than recent parvenus from the clans which still run almost wild in adjacent hills and forests, and which are nothing for Brahmans or caste prejudices. It is calculated that the *Bheels*, a tribe widely spread over Central India, must have been passing over in large numbers to Brahmanism during the present century. *There is a tribe near Ajmere*, of whom half were forcibly made Mussalmans, while the other half held its own non-Hindu customs, and until *very lately intermarried with its Mussalman kindred*; but now this last mentioned half has Brahmanized, and would no more marry with Mussalmans than the Raja of Benares. *Sir George Campbell, in his Report upon* the Government of Bengal, in 1871-72, wrote: "*It is a great mistake to suppose that the Hindu religion* is not proselytising; the system of caste gives room for the introduction of any of its outsiders. So long as people do not interfere with existing castes, they may form a new caste and call themselves Hindus; and the Brahmans are always ready to receive all who

will submit to them and pay them. The process of manufacturing Rajputs from ambitious aborigines goes on before our eyes." This passage which the Lecturer has quoted, is one recently recorded observation out of many that might be produced, of the operation of that process which I have called the first mode of Brahmanic propagation. Almost the whole of the great province of Assam, in the North-East of Bengal, conquered and settled by people from across the eastern frontiers of India, supposed to be akin to the Siamese, is said to have become Brahmanized during the last two centuries. It may be granted that people who come in after this fashion do not fulfil the meaning with which the term proselyte is used in describing the operations of a professedly missionary faith, and that Professor Max Muller in his lecture clearly used the term in this, the ordinary European, meaning. Nevertheless, when we undertake to estimate the vitality of a religion, and its capacity for future adaptation and development (without which no religion can endure long), we must consider and take account of growth by agglomeration, as well as of extension by missionary zeal. And it is fair to argue that a religion which still possesses so much power of extension and assimilation as Brahmanism, which has constantly produced, and is continually producing, reformers and revivalists, cannot safely be set out of all calculation in forecasting the religious future of Asia, a problem so prodigiously complex and obscure."

The process of absorption so graphically described above has been in full operation in the South of India including Mysore—as evidenced by the passages I have quoted from the Census Reports of Madras and Mysore. It is an undoubted fact that Brahmanism is expansive though it is proselytising rather than missionary, and it proselytises "by absorbing tribes, not by converting individuals".

Progress in Mysore.

By T. V. Rajaratnam.

Sericulture Industry.

In opening the proceedings of the Provincial Sericultural Conference at Chintamani, the Dewan Saheb touched on some of the salient facts governing the production of silk in Mysore State. In this connection we may observe that some would see in the ascendance of artificial silk the decadence of the natural product. But lately events have proved to the contrary. The unassailable position of natural silk for wearing quality and lustre in spite of imitations remains the same in its own peculiar sphere. As for the improvement of sericulture industry in the State the following constructive suggestions of the Dewan would be of practical interest. He observed :—

"There must be co-operation among all workers in the sericulture industry to eliminate waste of effort and resources and to secure the best results possible. Every sericultural village should be organized on a co-operative basis, and should aim at securing to its workers all the requisites of successful work—good seed, financial help, skilled advice and ready disposal of cocoons. Villages should combine to establish modern filatures in which from their cocoons high graded silk will be reeled which would be able to compete with the most expensive grades of imported silk. In natural lustre and beauty the Mysore silk, when properly treated, cannot be surpassed, and it is necessary that we must strive to make the most of this advantage. This would not only secure quick disposal of cocoons but would also prevent the wastes arising from handling and transport of cocoons which, as you know, are both bulky and easily damaged. My idea of a proper co-ordination between rearing and reeling is that for every 200 acres of mulberry, there should be centrally situated filatures of 10 Domestic Basins, and that the reeling should be so standardized that all those filatures can produce uniform grades of silk."

Grant for Stock Breeding.

Subject to certain conditions a grant will be made of Rs. 125 to Rs. 150 a year to an individual or a society for purchasing and maintaining at his or its cost a good breeding bull, he-buffalo or a stallion by the Government of Mysore.

Training School for Village Officers.

Government have directed the opening of training schools for village officers in Mysore and Bangalore Districts. It is proposed to be given an honorarium of Rs. 10 to Revenue, Police and Survey Officers. This provision of honoraria is not made for officers of medical, veterinary, agricultural departments, etc., as the village officers need only know their revenue duties and their relationship with other departments can be learnt from the Revenue Officers themselves. Hereafter we hope to see more diligent patels and shanbhogues trained in the most approved way.

Co-operative Experiments in Agriculture.

A highly satisfactory feature of the Mysore Agricultural Department is the organization

and carrying out of co-operative testing of improvements achieved by the Department on the land of the cultivators. Among the many reasons for introducing this step, two stand out prominently. Firstly, the cultivator conducts the test himself and thereby obtains the most convincing proof of its utility. Secondly, the tests are conducted on the soil and under conditions existing in the place when the improvements are later on to be adopted on a larger scale. Here an opportunity is given to the cultivator to make out for himself what improvements are possible on his land. We cannot see a better way of liberalizing the conservative instincts of our peasant whose tenacity in sticking to out-of-date methods are pathetic to a degree.

Compassionate Gratuities.

Government have sanctioned a provisional scheme for the grant of compassionate gratuity to the families of officers dying while yet in service. The gratuity is to be calculated at the rate of one month's pay for each year of approved service based on that drawn in June of each year subject to a maximum of Rs. 10,000. The minimum service for this grant is to be 5 years of qualifying service. The benefit of this scheme is also extended to families of deceased pensioners when the aggregate pension drawn *plus* the commuted value, if any, of the pension commuted is less than the compassionate gratuity admissible, had he died on the date of retirement.

Village Panchayat Schools.

At the request of the Director of Public Instruction in Mysore, Government have sanctioned the opening of 30 new village panchayat Grant-in-aid schools in Mysore District with effect from 1st July 1929 at a recurring and non-recurring expenditures of Rs. 3,000 and Rs. 3,000 respectively.

Depressed Class House-Building Societies.

To improve the position of the depressed classes, Government have ordered that a sum of Rs. 10,000 be placed at the disposal of the Registrar of Co-operative Societies every year for granting loans to Depressed Class house-building societies. These loans will not be charged any interest for the time being. The admittedly poor conditions of the members of the Depressed Classes are proof enough that what the Government have done is never too late. It is a matter for congratulation to the Government for their charitable move.

Improved Agricultural Implements Etc.

Government have sanctioned for a period of two years a scheme for the grant of loans to co-operative societies to enable them to stock for sale improved agricultural implements seeds and manures.

New Agricultural Colony.

Dr. Leslie Coleman, Director of Agriculture in Mysore, has made a sound recommendation to Government to establish an agricultural colony under the Bhadra Channel where an area of 197 acres of wet and 442 acres of dry land have been selected for this useful and new scheme of colonization. Briefly the objects of the scheme are to give opportunities to intelligent young men who have had training in agriculture to utilize their knowledge to their own advantage and the benefit of the country, to open out and develop the resources hitherto insufficiently developed and to serve as the centre for the spread of agricultural improvements and also to carry out demonstrations on a large scale under skilled supervision. The scheme is estimated to cost Rs. 10,250 per man of which the colonist is to contribute Rs. 1,500 only, the Government contributing the balance which will be treated as a loan free of interest for 4 years and to be recoverable in favourable instalments from the colonist.

From the inception of agricultural schools and colleges in India, students instead of "going back to the land" have been absorbed in the various channels of 'indirect' employment, except a rare few who have taken to the humble plough in the fulness of their scientific knowledge. Now in such a stage of matters it is high time that agricultural students should be diverted to the task for which they are trained, by Government patronage backed by attractive terms. The scheme that Dr. Coleman has recommended and which the Government have approved and are put into operation is sufficiently tempting for agricultural students to go to the land and render prosperity unto themselves and their country.

Dr. Kunhi Kannan's Discovery.

Dr. Kunhikannan, Entomologist to the Government of Mysore, has after careful experimenting proved that the plant *Mundula Suberosa* commonly used as fish poison can be used as an efficient and economic mosquito larvicide if powdered and thrown on the surface of the water. The plant has been found to be very effective in destroying anopheline and calcine species. We pause to see how it works out in combating malaria in Mysore.

Industries and Commerce.

The above Department was responsible for the erection of 63 industrial installations during

the past official year, involving a capital outlay of 3 lakhs of rupees. 17 rice mills, 12 pumping plants, 4 flour mills and 2 oil-mills were among the more important of the installations erected.

BADANVAL KHADI CENTRE.

The result of the working of the Badanval hand-spinning and weaving centre is interesting to a degree. This thoughtful experiment was started in November 1927 with the help of an organizer sent by the All-India Spinners' Association in order to see whether hand-spinning as a subsidiary occupation for agriculturists is a practical proposition. The report of the Director of Industries and Commerce shows that it well-nigh promises to be such, provided a market can be found for Khadi cloth woven from hand-spun yarn. It is gratifying to learn that no difficulty has been experienced in disposing the finished goods of this centre. It is a truism that the agriculturists are compelled to be lazy during seasonal intervals without anything to do. Instead of allowing this latent energy to go wasted, it would be a blessing if they are made to take to hand-spinning. The question of organizing various centres like the one at Badanval is being considered by the Government just now. The establishment of many centres would in the natural course of events prove to the ryot the blessings of earning a little and clothing himself as well. The problem of finding a market for hand-spun cloths need not trouble us very much, because nearly 50 lakhs worth of *Khadi* is now being absorbed in India, which was considered impossible, a few years, by some noted economists!

FAVOURABLE TRADE.

The review of rail-borne trade of the State is equally interesting and shows that during the past 15 years the balance of trade has been steadily rising in favour of the State and the position during last year was particularly favourable. The proposal to obtain correct statistics of rail-borne trade as indicated by the Director of Industries and Commerce is a very essential matter; knowing full well that the exact state of affairs in Mysore trade is impossible to be diagnosed without statistical information.

SANDAL OIL FACTORY.

The total output of sandal oil for the year 1927-28 was nearly 213,100 pounds. The figures for the last seven years indicate a steady rise for every period of two years or so. A gross revenue of Rs. 33,14,895 was realized during 1927-28 as against Rs. 29,75,674 in the previous year.

CIVIL VETERINARY DEPARTMENT.

The Civil Veterinary Department was reorganized during the year 1927-28 and is gaining ground in the confidence of the people and securing an increasing measure of co-operation. During the past year, 1,186 fresh cases of *rinderpest*, 2,036 of *anthrax*, 463 of *hamorrhagic septicimia*, 1,505 of *Black quarter* were registered and taxed the resources of the Department severely. There are about 47 dispensaries for cattle in the whole State. It may be easily considered as highly inadequate to meet the needs of the poeple. One hospital in each taluk must be our ideal having in view the interdependence of agriculture and cattle.

Indian Statistics.

By Sir M. Visvesvaraya, K.C.I.E.,

Chairman, Indian Economic Enquiry Committee, 1925, etc.

[At the request of many of our readers, we publish below the full text of the two articles con-ributed by Sir M. Visvesvaraya to our contemporary the 'Capital'.—ED., *M.E.J.*]

I.

The conditions of industry and trade are becoming increasingly complex on account of the keenness of international competition after the War, and there is a growing need for statistics in the conduct of business enterprises and for regulating economic and social welfare. One of the greatest needs of India at the present time is a fuller body of statistical data than is furnished by Government publications. More accurate and adequate data are in demand to supply the expert guidance needed for the business life of the country and to tell the complete tale of its economic condition.

The system of statistical information in India has long been open to complaint. The Famine Commission of 1880 commented unfavourably on the character of the information available regarding agricultural matters and

the means of collecting it. The Indian Industrial Commission of 1916-18 complained that statistics of production were "exceedingly defective," and that India in this respect was behind most countries in the world and especially the self-governing dominions. The Currency Commission of 1925-26 regretted the lack of a reliable and reasonably complete body of statistical data as an essential of a sound currency system. In his publication "India in 1926-27" Mr. J. Coatman, Publicity Officer to the Government of India, has pointed out that the economic and statistical studies in India were still in their infancy on account of the paucity of material for a survey of economic conditions.

The latest complaint regarding the meagreness of Indian statistics comes from the Royal Commission on Agriculture which published its Report in 1928. That Commission has recorded it as its opinion that there is no statistical organization at present in any province and that "the whole basis of statistics requires broadening."

Certain classes of statistics are being collected as a matter of administrative routine both by the Central and Provincial Governments, but there is no design in their make-up and no intelligible purpose in their outlook. The Government of India have not shown any marked partiality for statistics in the past. In 1923, they readily accepted the Inchcape Committee's recommendations, abolished the office of the Director-General of Statistics and discontinued some useful returns of internal rail and river-borne trade which were till then being published. Statistical organizations are coming to be increasingly recognized everywhere as a guide to national policies but the policies of this country are being determined without the expert knowledge which a sound system of statistics alone can give.

INDIAN ECONOMIC ENQUIRY COMMITTEE.

After the world war, several foreign Governments made attempts to discover fresh sources of revenue to meet their growing needs. The Government of India also wanted to do the same and appointed a Taxation Enquiry Committee with that object in 1924. The Legislative Assembly, the political leaders and the Press objected to the Committee and insisted that an economic survey should precede a taxation enquiry. The Government of India thereupon appointed the Indian Economic Enquiry Committee of 1925 with which the writer was associated as Chairman.

What the public and the Legislature wanted in 1924 was an actual survey of the economic condition of the people. The writer offered to undertake this so far as the data then available permitted but the Government of India did not want it at the time. They only asked for recommendations as to the methods to be adopted for such a survey, the establishment required and an estimate of the probable cost. These particulars were duly furnished. The Committee made its position clear in this respect in the following passage :—

"Although the name of the Committee is associated with the term *economic enquiry*, we have no concern with any actual investigation into the economic condition of the people. Our task under the terms of reference is limited to framing a scheme of an economic survey after examining the adequacy or otherwise of the material already available."

VIEWS OF THE ROYAL COMMISSION ON AGRICULTURE.

The Royal Commission on Agriculture which issued its Report in 1928 starts with the salutary assumption that agricultural statistics are indispensable to the successful development of scientific agriculture and social administration. It recommends the reconstitution of the Bureau of Statistics as a separate Department with a first class statistician at its head. In its view a well-qualified Statistical Officer should be stationed at the headquarters of each Provincial Government to study all aspects of its economic and social progress. The heads of these Departments should be in close touch with representative leading economists, scientists and business-men and the Central and Provincial Bureaux should form centres round which voluntary workers in the field of economic and social statistics would gather. It welcomes the co-operation of trade associations, University organizations and scientific bodies of the type of the "Punjab Board of Enquiry". In all these respects the Commission's recommendations are in close agreement with those of the Indian Economic Enquiry Committee.

The Report deplores the circumstance that information regarding the movements of agricultural produce within the country was altogether lacking and favours a revival of the annual returns of rail and river-borne trade discontinued since 1923. In regard to the suggested investigations into indebtedness of the population, the Commission is in entire agreement with the recommendations of the Indian Economic Enquiry Committee although it would like to see such investigations undertaken by private agencies instead of by Government Departments.

Some Conservative Views of the Commission.

The Commission, however, holds some rather conservative views in regard to the use and application of statistics in this country. The object of statistics according to this authority is "primarily the supply of information required by Government and only secondarily the supply of information required by producers and the general public." It advises concentration "on a moderate programme of official improvements" as compared with the more comprehensive proposals of the Economic Enquiry Committee.

For instance, in connection with the collection of agricultural data, the Commission would not allow a primary reporting authority to form an estimate of a normal crop, although the practice, in a country like Japan, is for the rural population to gather production statistics and exhibit them in village offices for the instruction and enlightenment of the residents. Although admitting, in theory, the value of statistics as an aid to the solution of the general economic problems of the country, the Commission is opposed to a general census of production and it will have nothing to do with large schemes of economic investigation into the condition of the population.

The Commission has not the same enthusiasm, for instance, as the Publicity Officer of the Government of India evinces for the maintenance of a fuller body of statistics. Mr. Coatman, on the other hand, while stating that the Economic Enquiry Committee's Report "revealed in a striking fashion . . . . . the paucity of material for a system of survey of economic conditions in India" regrets the absence of statistics which might help in estimating average income of production, wages, cost of living and other similar economic phenomena and he goes on to add that "no estimate could be formed of the normal wealth of India because practically all the necessary statistics are lacking."

II.

Statistics on an International Basis.

The business world everywhere and particularly in post-war Europe demands more and better statistical data to regulate its industrial and commercial activities. To meet this need, the League of Nations convened a Diplomatic Conference in December 1928 with a view, among other objects, to strengthen the statistical services of its constituent States.

The Conference reached an agreement to modify certain details in the existing methods of compiling trade statistics so that all trade statistics, on whatever system they might be based, may be comparable. A model scheme for censuses of production was suggested and rules were approved which provided that the returns of industrial activity should show production in terms both of quantity and value. The Conference concluded a Convention, the signatories to which, comprising 23 States, undertook to compile and publish a body of statistics constituting a minimum programme. This may be regarded as the first important step towards the unification of economic statistics on an international basis.

Statistics in America.

A prominent American economist writing in the issue of the "International Chamber of Commerce Journal" for July, 1928, tells the public how the wider collection and utilization of business statistics has benefited the conduct of commercial enterprises in the United States of America since the War. "The guidance of industrial operations and sales activities," says the writer, "by means of comprehensive statistics of production, trade, industrial and business activity, employment, wages, living costs, railway traffic and financial conditions, has become an outstanding characteristic of industrial and commercial policy in the United States of recent years." The chief motive for the development of statistical information has been to promote stabilization in the various industries. Rapid growth of trade associations in many branches of industry and trade, independent research organizations of various types including those of colleges and universities, are all exerting their influence in this direction. The Department of Commerce publishes relevant information regarding production in the various industries. The Federal Reserve System collects and publishes statistics of national and local production for determining credit policy.

As a result of all these factors, it is acknowledged that stability in industry and trade has been greatly promoted. It is claimed that American industry and trade has to-day at its disposal a larger body of statistical information than it ever had before and larger than any other country in the world possesses and that in fact the widespread increase of prosperity in the United States of America has depended to a very large part upon this factor. While reliance is placed on statistical data in

the United States of America for the stabilization of industries, the same object is sought in Europe through cartels and other industrial organizations involving a pooling of interests and centralized control.

STATISTICS IN ENGLAND.

Censuses of production were taken in England in 1907 and 1924 but there have been no systematic periodical surveys. The Board of Trade, however, regularly publishes quarterly indices of production in a number of industries. The London and Cambridge Economic Service in 1924 published a study containing annual and quarterly indices for pre-war and post-war years. Similar work is going on still. Other indices of production have been prepared by independent investigators and, on the whole, Great Britain is said to be well supplied with statistics so that fairly reliable estimates may be prepared of its industrial output as well as the total product of all goods and services. By studying these results and taking into consideration the account of England's overseas' investments, rough estimates of national income and standard of living from year to year are formed which give an index of the country's national prosperity.

SOME DEFICIENCIES OF INDIAN STATISTICS.

What India needs is statistical data which will enable its industries and commerce to be stabilized and which will render easy the preparation of estimates and forecasts of production, cost of living, income per head, national income and other results of a like nature to guide the nation-building policies and activities of the Government and the people. There is no means of discovering advance or retardation in the economic sphere without first collecting the necessary data.

The agencies which can help in collecting and compiling this information are the various Departments of the Central and Provincial Governments, Local Boards and Municipalities, Chambers of Commerce and commercial associations generally, large industrial and trade establishments, trade institutes, banks and the universities. We have in the Professors of Economics of the various Universities a competent body of economists but, being most of them Government employees, they do not, or are not allowed to, speak with freedom on politico-economic questions and policies. They attend the yearly Economic Conferences at Government expense but they interest themselves mostly in matters of an academic character and rarely with problems which have a live interest to the people. This is a distinct loss to the country. In the early days of reform in Japan, the University Professors were constantly being consulted by their Government.

Estimates of production should be prepared under agriculture, industries, mining, fisheries, etc. Censuses of industrial establishments should be taken, and statistics of occupations and prices regularly maintained. Index numbers should be worked out with some specific object in each case. The existing statistical publications should be standardized on a uniform plan and international comparisons should be encouraged. A Statistical Year Book may be published, and as suggested by the *Agricultural Commission*, a journal may be started with advantage, separate from the Indian Trade Journal, and entirely devoted to statistical subjects.

COST OF A PROPER STATISTICAL ORGANIZATION.

The Indian Economic Enquiry Committee has given in Chapter IX of its Report a scheme for an Economic Survey together with estimates of probable cost.

The additional cost to the Central Government of converting its present establishment into an independent Central Bureau of Statistics with a full time Director at its head, would be only Rs. 75,000 per annum.

In the Committee's view a province of the size of the Punjab with a population of about 20 millions will require an establishment costing Rs. 4.73 lakhs, or at the rate of Rs. 23 per 1,000 of population. The scheme provides for expenditure under three main heads, namely, (1) a Provincial Statistics Bureau, (2) collection of production statistics, and (3) intensive enquiries into income, indebtedness, etc., in every district of the country. If an appreciable reduction in cost is desired, it can be effected by collecting the information under heads (2) and (3) in typical districts or areas instead of in everyone of the districts in the country, including Burma, as provided for in the Committee's estimates.

In the course of a reply to Sir Purshotamdas Thakurdas during the discussions on the budget in the Legislative Assembly a few days ago, the Hon'ble the Finance Member stated "that the present state of finances did not warrant the expenditure of Rs. 63 lakhs to carry out the recommendations of the Indian Economic Enquiry Committee." Government might not afford to spend Rs. 63 lakhs yearly but that is no reason why a beginning should not be made if it is possible to do it by spending a smaller amount.

The Committee's estimates were based on

the assumption that Government were anxious to carry out an economic survey to get a rapid insight into post-war conditions and that they were willing to incur the necessary initial and recurring outlay. If adequate funds are not available, the cost might be reduced from Rs. 23 to Rs. 15 or even Rs. 10 per 1,000 of population. The total cost referred to by the Finance Member might thus be brought down from Rs. 63 lakhs to Rs. 37 or even Rs. 25 lakhs.

The cost should thus be adjusted to the exigencies of finance. The larger the expenditure that may be sanctioned, the more complete would be the results. Any province which has got the necessary funds might follow the full programme chalked out by the Committee.

Enough has been said to show that there need be no delay in starting a Central Bureau and Provincial Bureaux of Statistics. There is enough work to do for the staff if each bureau developed the modern statistical sense and occupied itself in arranging, according to the latest methods, the material now being collected by the Government of India and the various provinces.

Some of the provinces at least are now financially more favourably situated than they were in the year 1925. If the advantages of collecting and maintaining proper statistical data are properly explained to, and realized by, the public, the municipalities and local boards may find it worth their while to do the work at their own cost.

CONCLUSION.

Government often attempt to discount the statements of their political opponents regarding the appalling poverty of the people, their low standards of earning, unemployment and other common economic phenomena in this country but they are unable to carry conviction by reliable statistical data. The truth is the right sort of statistics are not collected and there is no organization to do the work effectively. No engineer will think of building a bridge without first making a survey of the site. In the same way, no sound economic policies can be evolved for a country without a *preliminary economic survey. Does it not* seem anomalous that, in all their huge establishments, the Government of India have not got a single expert statistician who is able to give his whole time and undivided attention to the statistical needs of the population of 250 millions of this vast country? The omission to provide this necessary organization will lay the Government open to the charge that they dislike statistical analysis and expert scrutiny into their administrative acts and policies and are content to trust to the methods of empiricism. The collection of statistics is a part of the nation-building work of the country and it would be a thousand pities if further time were lost in mobilizing a sound statistical organization for its service.

Indian Banking Enquiry.

By A. S. Venkataraman, B.A.

The question of a Banking Enquiry, though quite old, took definite form when the report of the Royal Currency Commission was published. The Commission recommended the creation of a Central Bank of India, or a Reserve Bank, which would remedy some of the major defects of the Indian Banking System, if the word "system" can be used in a wide sense to cover the existing Banking machinery of India. With the rejection, however, of the Reserve Bank Bill in February 1928, the subject suffered an eclipse owing to the tense atmosphere in the Assembly, at any rate, till the publication of the report of the Agricultural Commission in April 1928, for it was believed that the agricultural capital and connected questions would be examined by the Agricultural Commission. The question received a fresh impetus at the gatherings of the Federated Chambers and the Associated Chamber of Commerce. The decision that was arrived at was that for a Central or a Reserve Bank to be entrusted with the mechanism of the control of currency and credit, two conditions should be satisfied, *viz.*, sound settlement of its organization and a good measure of public support. The time between the fulfilment of these conditions and the revival of proposals for the creation of a Reserve Bank should, it was suggested, be utilized by an enquiry. These conditions are in the main fair but the success of any enquiry depends on quickness and thoroughness of investigation and it would be good, on that account, to fix a lesser time limit than two years.

The Banking problem in India is peculiar and complicated. The country being largely agricultural, the pursuits relate to agricultural

and other allied kinds. The people are backward and illiterate. Industrial development is poor, agricultural productivity low and capital is shy due to a lack of provision for it. When we consider the fact that the internal trade is Rs. 6,000 crores or 15 times as great as *the foreign trade of the country, we are at once* convinced of the need for a proper banking system and organization. There are various types of banks and the differentiation of functions so marked that it becomes more harmful than beneficial. Not only does the work among different banks overlap but also there is too little of co-ordination following close upon the heels of excessive specialization. The Imperial Bank is the Government's Bank and looks after its work of keeping its balances without interest. It also finances the internal trade and commerce to a limited extent and functions in a small degree as a banker's bank by reason of its being backed by Government and its liquid resources. In a measure it is in a position to control the money market. It is, however, barred from note-issue, a monopoly of the Government, from foreign exchange business and foreign trade which are monopolized by the exchange banks. Most joint-stock banks finance internal trade but deal in foreign exchange only in a small measure. Capital for most of the internal trade is supplied by indigenous agencies and joint-stock companies. As the country is agricultural, the supply of agricultural capital is an important subject. Now this is made by co-operative societies and banks in a small degree. But the majority of the agricultural population is financed by village *sowkars* and *marwaris*. The deposits of the Post Office Savings Bank are available for the Government, while the premiums of insurance companies are available to the Exchange Banks or transferred abroad.

On the supply of capital for industries and commerce, two aspects have to be distinguished *viz.*, mobilization of the peoples' savings and increasing the amount of available capital by affecting those in a position to save and by increasing the national dividend by means of measures for the development of India's potential resources. The first is done by the agency of banking, by Post Office Savings Banks, by village accountants for the sale of interest-bearing certificates for five years or shorter periods. The second, for that matter, depends on the general progress of the nation and hence the augmentation of the national dividend.

It is to be deplored that what little of banking that is done (Deposit per head in India is Rs. 6-3-0 as against £58-6-0 in England) is only commercial but not industrial. Industrial Banks are few and far between, and if any sets out on its career as an industrial bank, it ends by becoming commercial for the obvious reason that short-term deposits alone are popular and that the edifice of industrial progress " cannot be raised on short-term deposits ". Not only that, but also industrial capital obtained on short-term deposit leads to the collapse of banks because of a run on them, restriction of good industrial securities and in effect to the destruction of banking habits. I should consider the deposit habit is harmful to banking.

It would be perhaps unnecessary and even impossible in a short article to enlarge on the features and defects of Indian Banking but the main purpose is only to suggest some of them for a full discussion by the public and the members of the Banking Enquiry Committee.

Of the lines of enquiry, the text of the letter of the Government of India says: "It is generally agreed that the enquiry should be divided into two principal stages, the first covering the collection of evidence and the indications of the main directions in which the opening up of increased facilities is required: the second stage taking the form of a consideration by experts with world experience, of the evidence and suggestions prepared by local committees during the first stage." The main objects of the enquiry would be to enquire into the existing conditions of banking and to make recommendations for the expansion of both indigenous and joint-stock banking with special reference to the needs of agriculture, commerce and industry. For the investigation to be adequate and to be completed in a short period of time, a Central Committee and a number of Provincial Committees are proposed with a necessary division of the subjects to be covered by each. The concern of the Central Committee relates to the regulation of banking with a view to protect depositors and for the creation of confidence, banking education, for the creation of facilities of training a body of people, industrial banks and financing foreign trade. The Provincial Committees, however, will have to engage themselves in an investigation of agricultural credit, mortgage banks and the financing of internal trade in connection with all the subjects mentioned above. It is also to be noted that all heads are made the direct responsibility of the Central Committee and that in regard to the subjects assigned to the Provincial Committees, two sub-committees have to visit important industrial centres, and gain a first-hand knowledge of large industries and trade and submit their reports to the Central

Committee along with the Provincial Committees. At a later stage, the assistance of outside experts will be sought before the final submission of the Central Committee's report to the Government of India. On the composition of the committees, Central & Provincial, nothing need be said, because of the provision for an adequate representation of interests except the Indian Legislature. The Finance Member, however, has agreed to keep in touch with the Central Committee at all stages and to keep leaders of all parties informed of the progress of enquiry. A memorandum of the main heads of enquiry by Provincial Committees has also been prepared by the Central Committee and embraces agricultural capital, special study of the working of co-operative banks and co-operative marketing societies, indigenous banking and investment habit, etc.

In conclusion, a few points or conditions may be laid down, the satisfactory fulfilment of which would ensure the success of the Committees' labours. As banking and credit go together, it is impossible to organize a highly developed banking system in the absence of a sound monetary system. *A Government which alters* the meaning of the monetary standard, which keeps its reserves in England, which is itself responsible for the disappearance from circulation of vast quantities of gold that are to be absorbed in the country, because of an extensive system of token currency, which in its eagerness to keep up a high exchange, countenances a high Bank rate, even when the Balance of Trade is favourable—a Government which launches a banking enquiry without any relation to the monetary system, is, I fear, putting the cart before the horse. A satisfactory solution of the problem would involve the establishment of an effective gold standard and the creation of a Central Bank capable of issuing notes and dealing in Foreign Exchange. Secondly, proper encouragement and support should be imparted to the creation of industrial banks for the supply of industrial capital. We have had a little too much of commercial banking. If the two were not mixed up, commercial ruin and industrial stagnation would be avoided. Thirdly, there should be a proper co-ordination of the resources and activities of indigenous banks with the other banks. The investigation into the working and conditions of indigenous agencies may be rendered effective and thorough, if some witnesses are examined in the vernaculars and their memoranda permitted to be presented, if required, in the provincial vernaculars. Fourthly, what is required after all is not so much an enquiry as action and if enquiry should precede any definite course of action, it must be done speedily. A larger time-limit has to be fixed and the Committees requested to finish their labours by that time. The strength is thirty and a few additions are likely. The machinery seems, therefore, unwieldy and immobile and not likely to act promptly and quickly at a time when an ounce of action will be better appreciated than a ton of profuse talk.

A Land Mortgage Bank for Mysore.

By B. Venkatesa Rao, B.A., B.L., Advocate.

The proposed Bill to amend the Mysore Co-operative Societies Regulation No. VII of 1918 and the Report of the Select Committee thereon have not received the attention they deserve at the hands of the public. There is, therefore, every need to examine its provisions and see what amendments in them are called in the interests of those who will be affected by them. The following suggestions are offered with a view to soften the vigour of certain of the methods of recovery adumbrated in it. Some of them may at first seem to be, at the first glance, to favour a little too much the debtor, while a few may seem a little too technical. It is, however, hoped that a deeper consideration of the proposed measure will show that some attempt should be made to make it less irksome to the weaker party. As the idea of a Bank of the kind suggested is all to the good, there is the greater need to make it, from the start, a success. This success cannot be attained unless certain features of the proposed measure are re-considered from other points of view than the one they proceed from.

The Bill, as recast by the Select Committee, brings together in a separate part of the Regulation the special provision relating to the Land Mortgage Bank. The provisions of the existing regulation relating to Co-operative Societies are also made applicable to it, but only to the extent to which they are not inconsistent with the new provisions contained in Sections 52 and 57 which are proposed to be added to the existing regulations.

GENERAL.

The Bill provides *inter alia* for—

(*a*) the framing of bye-laws subject to the previous approval of Government,

(*b*) the composition of the Board of Supervision in addition to a Committee,

(*c*) issue of debentures,

(*d*) recall of loans and summarily taking possession of mortgaged property,

(*e*) summary procedure by the Registrar for recovery of loans,

(*f*) the execution of orders, for sale and for possession, by the Deputy Commissioner under the provisions of the Mysore Land Revenue Code.

The Committee observes in para. 3 of the report that they have kept in view the details of the scheme as described in the Government Order, and have provided for the same without " any radical departure from the ordinary law". It is submitted that the remedies prescribed in Sections 59, 60 for the recall of loans, and for realization of loans due to the Bank, are drastic and constitute a radical departure from the ordinary law of mortgages, as enacted by the Transfer of Property Act, which ought to be our guide in this matter.

It is apparently the intention of Government and of the Select Committee to extend the benefit of the Scheme to all holders of land, " superior and inferior holders ", as defined in the Land Revenue Code. The benefit is certainly extended to be conferred on Kadim tenants holding alienated land. A question may also arise whether a person who holds land and defines a substantial portion of his income from " land "—would not be entitled to become a member; I take it Section 58, Sub-Section (1) Cl. (c) is wide enough, and will enable all holders of land—whether agriculturists or not—to get the benefit of the proposed scheme.

THE COMMITTEE & BOARD OF SUPERVISION.

Section 54 rightly provides for the representation of Government on the Committee and the Board of Supervision—in cases where Government contributes any part of the capital or guarantees interest on any loan. It is also provided that the debenture-holders shall be similarly represented. The method of selection of the representatives is left to the Government to decide. It is submitted the election by the debenture-holders would be the most satisfactory method, and this will ensure the debenture-holders taking an active interest in the management of the Bank.

The Bill is silent as to whether the debenture-holders or the individual members who contribute the capital for the Central Banks would be entitled to get credit from the Bank. Both on principle and from point of view of expediency it would be inadvisable to allow the individual member of the Bank who has subscribed the capital, to borrow from the Bank. Their right is to be limited to the management and control of the Bank ; this is a matter also to be provided for in the Bill itself.

SUMMARY PROCEDURE FOR RECOVERY OF LOANS.

General.—The scheme of establishing a Central Land Mortgage Bank—operating through Branch Societies in the mofussil—is intended eventually to give credit to the agriculturist population throughout the State and to relieve their indebtedness. So the proceedings laid down by the Select Committee for—

(*a*) the recall of loans and taking possession of the mortgaged land,

(*b*) for selling the property by an order of the Registrar,

(*c*) for Deputy Commissioner executing the decree,

are very drastic and will certainly make the position of the debtor worse than it is with the outside money-lender. The procedure laid down by the Select Committee is clearly a departure from the ordinary law inasmuch as the mortgager can oust the mortgagee and get into possessiou, at the slightest default ; and the mortgager is left without any remedy against any action which the Bank may choose to take.

It will be observed that under the Transfer of Property Act the right to foreclosure does not exist in case of simple or even of a usufructuary mortgagee as such ; even the right of private sale without the intervention of Court, conferred to the holder of an English mortgage, by Section 69 of the British Indian Act—under certain conditions—is negatived by omission of the said Section, in the Mysore Regulation. Nor is there any provision in the Transfer of Property Act for a simple mortgagee taking possession of the property except by a suit for sale. It is submitted the power to be conferred under Section 60 of the Bill for taking possession of the property even before sale is too wide and may very often lead to misuse and cause undue hardship. The effect would be very often to deprive the agriculturist of his very means of living where the whole of his lands are mortgaged. It may be contended that this provision is intended for the benefit of the borrower and the Bank would be in possession as trustee, and would result in the liquidation of

the debt, and the return of the property to the owner. In this connection, the difficulties and complications met with in the case of management of Jodi villages by Revenue authorities may serve as an object-lesson. The management of a private holding by a Bank or its officer cannot be anything but unsatisfactory for several reasons. So this can hardly benefit the borrower. It is submitted this power for taking possession may well be abolished.

So, if at all the power of taking possession of the property must be retained, its operation may be restricted to cases—

(*a*) where the arrears of principal and interest due on the date of the order exceeds Rs. 2,000,

(*b*) where there is persistent default in payment of 3 successive instalments, and subject to a proviso that on payment of the overdue instalments and interest and the costs occasioned by any proceedings under Section 60, the defaulter may be restored to possession.

RECALL OF LOAN.

Section 59.—Section 59 provides for recall of loan in the cases mentioned in clauses (*i*) to (vii) specified therein. No exception can be taken to Clauses 1 to 5. It is reasonable to insist upon absolute *bonafides* on the part of members of Co-operative Institutions; in the absence of good faith on the part of the debtor he is liable to forfeit the credit and the loan becomes immediately payable.

DEFAULT IN PAYMENT OF FIRST INSTALMENT.

Clause (vi) which provides for recall, in case of a single or 1st default is penal in nature, and such a provision could hardly inspire confidence in the rural population: especially with societies formed for the purpose of rural credit, and the constituents of the Bank, being unaccustomed to banking operations, and also by reason of the fact that their regularity in payment of instalments would depend upon the seasonal conditions and the realization of crops, the provision for recall of the entire loan is drastic and requires modification.

Since under the summary procedure an enquiry and decision by a judicial tribunal is denied to the parties and since no relief that a Court of equity could give is available, and all judicial privileges are vested in the Registrar, a more liberal rule operating in favour of the debtor may be enacted. The following proviso is suggested—on the analogy of Section 114, Transfer of Property Act (Proviso to Cl. vi) :—

Proviso to Cl. (*vi*).—"Where a loan is recalled under the provisions of Cl. (vi) Section 59, if, at the hearing of the application, the debtor pays the instalments in arrears together with interest or gives security for such payment within one month, the Registrar may in lieu of making a decree for sale, or possession, pass an order relieving the debtor against the forfeiture of the term allowed for payment, and thereupon the debtor will have the benefit of the entire term stipulated in the mortgage bond as if the forfeiture had not occurred."

Section 60.—It may be observed that Rule 60, Cl. 2 (*a*) provides for grant of six months' time for payment of the entire balance due—while the proviso suggested above requires payment of the overdue instalments only. It is submitted that this provision will remove the rigour of the rule and secure the realization of the dues to the Bank.

Since the Registrar is invested with wide judicial powers under this Section and the Registrar exercises the functions of the ordinary Court of Law, it is necessary to provide that all proceedings under Section 60 must be deemed to be "judicial proceedings" and the debtor must be allowed to appear in person or by duly authorized agent.

Section 61.—A further proviso to this Section is necessary "provided that nothing contained in Section 60 shall affect the right of any prior encumbrancer, or charge holder, or any person claiming an interest in the property, independently of the debtor, or the remedies open to them.

Section 62.—Restoration of possession to be allowed earlier than the term if the loan gets discharged and the debtor redeems the mortgage by payment. Evidently the intention of the Select Committee could not be to postpone redemption till the expiry of the period fixed. The period contemplated can only be with a view to the discharge of the mortgage debt and if the amount is paid up earlier, redemption ought to be allowed.

Section 63.—Clause (i): The procedure for sales should be subject to the same rules with respect to right of appeal as is conferred by the Land Revenue Code. The right of appeal may be assumed to exist by implication; the right of appeal may be the same as under the Land Revenue Code, and a further right of appeal to Government under Section 210, Land Revenue Code.

Clause (2).—Since it is clear that a sale held by the Deputy Commissioner under Cl. (2) cannot affect the interest of strangers and persons who do not claim under the debtor, but adversely to him though acquired subsequently, the provision seems to be too general and may lead to an anomaly.

Hence strangers, or persons claiming

adversely to the debtor may be exempted from the operation of the rule but under any circumstances *only the right, title and interest* of the mortgager alone can be sold.

Section 64.—The right to claim on account being a very important one from the point of view of the debtor and which will involve a lot of complications, it would be very necessary to provide a suitable machinery for highly contested and disputed case. I would, therefore, suggest that in all cases falling under Section 64 the aggrieved party may be given a right of reference to the District Court analogous to the right of reference under the Land Acquisition Regulation. The Registrar or his delegate would be too busy an officer to spare time for an elaborate investigation into disputed cases.

Section 65.—This Section provides for the execution of orders for possession passed under Sections 60 and 64, by the Deputy Commissioner under Section 209, Land Revenue Code. The provisions of Section 209 are quite inadequate to meet the exigencies of particular cases. In the course of execution of these orders several claimants who are strangers may resist delivery of possession; there may be tenants in occupation, there may be other members of a Hindu co-parcenery or a widow in occupation whose claims may have to be adjudicated upon by a judicial tribunal. Section 209 can never meet all these cases or has such cases in view. Further it is no use burdening the Revenue Officers with additional work which will result in inordinate delay, the very thing sought to be avoided. Therefore it is suggested that order under Sections 60 and 64 may be made executable by the Civil Court having jurisdiction over the subject-matter of the suit as if such order were a decree passed by itself.

A general section may be added to the Bill declaring that the proceedings of the Registrar or other officer acting on his behalf and under Sections 60, 62, 63, 64 shall be deemed to be judicial proceedings, and the parties thereto shall have a right to be represented by duly authorized counsel.

It is submitted that unless the Bill is materially altered and the procedure prescribed is largely liberalized, on the lines suggested above, the proposed scheme of a network of Co-operative Societies working under the Central Bank may not prove beneficial or secure the interest of the rural population. It is apprehended that the remedy may prove worse than the disease.

Conclusion.

Any scheme of Co-operative Agricultural Credit Rural Societies may not be without defects and may present various difficulties in their actual operations. No doubt it may be necessary to have a more speedy procedure for recovery of dues than the dilatory procedure of the Civil Courts. But it cannot be allowed to jeopardise the position of the debtor, the weaker party in the bargain. The above suggestions are made with a view to liberalize the provisions of the Bill without affecting the underlying principles of the scheme as set forth in the Government Order. It is hoped that these suggestions will commend themselves to the Government and will result in material changes before the scheme is put into operation.

Indian Graduates and America.

By "Americanus".

New industries are now springing up everywhere throughout India. Many manufacturers are, however, unaware of the sources of supply as regards appropriate machinery; some need capital and others again need buyers in foreign lands for their finished wares. American Chambers of Commerce in general give considerable assistance in this respect, for the asking, and in India such information is obtainable from the American Consulates and Trade Commissioners, also from American Banks and Navigation Companies and from Japanese steamship lines having a service to America. On the other hand many college graduates would like to come to America. They really do not know how to proceed in the matter or [illegible]

possible for them, if only they go to it in the right way. And this way is simple. There is plenty of room in American industry for such students who wish to perfect themselves by completing their studies in American factories, industrial plants and laboratories. They can then return to India either as the representatives of the concerns for which they have come or to establish branch factories or mounting plants for them all over India. To achieve this purpose these graduates should address the following organizations, not separately but all of them. They will find then many obstacles taken away from their path and their road to success made very much easier.

1. The National Association of Manufacturers, New York City.

2. The Pennsylvania Association of Manufacturers, Philadelphia Pa.

3. The Philadelphia Commercial Museum, Philadelphia Pa.

4. The Detroit Chamber of Commerce, Detroit, Michigan.

5. The Hindusthan Association of America, 500, Riverside Drive, New York City.

6. The India Lecture Bureau, 343, West 43d. Street, New York City.

In writing to these organizations let them state their desire to enter as students with American concerns as stated previously. Let their explanations be truthful, not exaggerated and coloured. The simple facts will, in the end, prove best.

In the meantime, such student-graduates would do well to write articles on the subjects they master and send those articles to the American trade press. Such articles should be creative and constructive showing new possibilities for Swadeshi industries, for the establishment of plants financed by Americans, for the development of Indian natural and mineral resources for the home trade of India first, and for export to other Oriental countries and the rest of the world second. There are plenty of opportunities to be developed in India and plenty of graduates who now vegetate whereas with American co-operation they might become prosperous and influential men in the Indian community. These men should not neglect the advantages offered them. Now that India is rapidly coming to the fore, this is the time for action.

Meanwhile, business men of India who would like more information than that supplied by the organizations already mentioned for them can also address the organizations mentioned for students. Besides they can easily get in touch with the Chambers of Commerce in the following cities, the more they write to the better it will eventually be for them. These Chambers of Commerce are in Boston, Mass.; Worcester, Mass.; Macon Ga.; Providence R. I.; Bridgeport Conn.; Wilkes-Barre Pa.; Baltimore Md.; Birmingham Ala.; San Antonio, Texas; also the Manufacturers' Association in San Antonio, Texas.

The new industrialist in India must not consider it a drawback to start on a small scale as he will soon find banks to assist him when they find that he has really useful merchandise to produce. Meanwhile he should not neglect to take advantage of the aid offered him by organizations of the Occident.

Subsidiary Occupation to Agriculturists.

By the Director of Industries in Mysore.

[The Mysore Government achieved last year the task of finding a supplementary occupation for 1,000 *families of agriculturists without losing in the attempt a single rupee of the State Treasury. Other States and organizations interested in the welfare of the peasantry of India may well copy its example. The Director of Industries in Mysore has described the experiment in a note, the simple directness of the language of which gives it a realistic touch. The note is reprinted in full below.—Ed., M. E. J.]*

An attempt is being made at a village Badanval, seven miles south of Nanjangud, to test by intensive work the practicability of introducing hand-spinning as a subsidiary occupation to our agriculturists. Badanval and the villages round about are favourably situated for carrying out such a test. The raiyats here grow a local variety of cotton and a large majority of them are very poor. There is no subsidiary occupation worth the name and the agriculturist has plenty of spare time except when he is actually employed on field work. The spinning of yarn by hand had died out less than 20 years ago and several old women well remembered the days when they were employed in spinning yarn in their girlhood. The spinning wheels were still stored up in their attics and the occupation was only given up because there was no demand for the yarn. There were a few Adikarnataka weavers plying their trade but they were using mill yarn.

The Plans Laid Out.

It was decided to make an intensive experiment here. A scheme for the purpose was obtained from the Secretary of the All-India Spinners' Association who not only lent an officer trained in this work but also undertook to sell the finished goods. A working capital of Rs. 3,500 was sanctioned for the purchase of raw cotton and giving advances to spinners, weavers, etc. A grant of Rs. 1,725 was sanctioned towards outright expenditure required to meet the charges on account of establishment and it was expected that in the initial stages the operations would involve a loss of Rs. 500 and separate provision was made for meeting this loss. The working capital was

subsequently increased by Government to Rs. 10,000.

FROM ZERO TO ONE THOUSAND.

The special organizer sent by the All-India Spinners' Association started work on 1st November 1927. Sixty-two spinners mostly Adikarnataka weavers were willing to restart working their charkas if raw cotton was advanced to them and an undertaking was given that the yarn made would be purchased. When they found that the special organizer actually meant business, spinning spread rapidly to the surrounding villages. The average output of yarn for the first three months was about 500 lbs. and the number of charkas had increased to 398 at the end of this period. The production during the succeeding three months was 740 lbs. and the number of charkas rose to 560. By the end of June 1928, the number of charkas had risen to 1,000. The total weight of yarn spun up to the end of August 1928, for the ten months since the commencement of operations in the centre, was 7,744 lbs. and the price paid for this yarn is Rs. 6,711.

WELL WORTH THEIR WHILE.

After spinning had become fairly established, advances of raw cotton were discontinued and the spinners were required to buy their own cotton. Advances of money were also discontinued in May 1928. The cotton spun in the early months was very coarse, the count ranging from 6 to 8 and was purchased at the rate of four annas per ball of 13 tolas. The purchase by weight was also discontinued with a view to induce the spinners to spin higher counts and the purchase at present is effected mostly by length. The count of yarn spun at present varies from 10 to 13. The average production of a spinner per month working during spare time is about 2 lbs. and her daily earnings vary from $\frac{3}{4}$ to 1 anna a day. Small as this amount would seem, there are 1,000 spinners who find it worth while to earn this wage by putting three or four hours of work at the wheel daily.

WHAT THE LOOMS PRODUCE.

Along with the introduction of hand-spinning in the centre, arrangements were made with some of the looms at Badanval to weave the yarn into cloth. At first only towels could be made with the yarn. As finer yarn was produced, sheets, coatings and turban cloth was made. There are at present 62 looms engaged in weaving the yarn produced at the centre. All varieties of goods are made. By the end of June 1928 about 9,200 yards of Khadi weighing 3,083 lbs. and valued at Rs. 3,741 had been made. The value of the production during the months of July and August 1928 amounted to Rs. 3,372 giving an average of Rs. 1,686 per month.

A FEW TELLING FIGURES.

The total sales by the end of June amounted to Rs. 3,777 of which Rs. 714 was sold through the Stores Purchase Committee and the balance to the general public. The Stores Purchase Committee have since placed an order for about 15,000 yards of double thread coating cloth and 600 turbans with the Centre and about half the production is absorbed by Government departments at present. Careful statistics are maintained of the earnings of weavers. It is found on an average that they weave about 62 yards of cloth a month and earn about Rs. 7 during the period. They work from two to three hours a day. A balance sheet was struck at the end of June 1928. It was found that the working capital had suffered no diminution and it had on the other hand increased by Rs. 152. The provision of Rs. 500 to meet any loss that might occur had proved unnecessary.

RURAL RECONSTRUCTION.

But the issues involved at present are of such vital importance that the gain or loss of a few rupees in the initial stages of this experiment is of no moment. If Rural Reconstruction is to be achieved in the future, work must be found for the people living in our villages, work such as they can do and such as can profitably employ their idle time. The Agricultural Commission recognize the urgent need for a subsidiary occupation for the Indian agriculturist but are vague in their recommendations as to what this occupation should be. They make no reference to hand-spinning presumably because the earnings in this occupation are so slight.

TOWN-DWELLERS' FALLACIES.

But the irony of the situation is that the insignificant income yielded by hand-spinning is large enough for a large proportion of our village folk to induce them to strive for it. There is no occupation that is so easily learned as hand-spinning and that interferes so little with the main avocations of life. In the absence of a more paying occupation it seems a folly to reject hand-spinning simply because in the eyes of the dwellers in towns the wages of the hand-spinner are so inconsiderable. Hand-spinning should not be encouraged and cannot be established wherever a more profitable subsidiary occupation can be started. But in

centres where no other alternative occupation is available, hand-spinning should be given a chance.

PROSPECTS OF THE FUTURE.

The experience in working the charkas for ten months at Badanval has shown that with larger wheels and with cotton of longer staple, finer yarn can be spun. Improved charkas are being introduced and the new variety of cotton introduced by our Agricultural Department will be sown at Badanval during the ensuing season. One of the greatest obstacles in spinning finer counts on the spinning wheel is the fact of the cotton not having been suitably carded before the slivers are made. This will soon be remedied as a suitable carding machine is being made at the Government Weaving Factory. After these improvements are introduced there is every prospect of the spinner making yarn of 25 to 30 counts and the industry being thoroughly established.

THE SCHEME DEVELOPS.

A special Sub-Committee of the Mysore Government sat to consider the results of the Badanval experiment. It recommended :—

"1. That the work now carried on at Badanval should be continued on the lines indicated in the note.

2. That a copy of the note may be sent to the Deputy Commissioners with a request to select suitable centres in their districts where work on similar lines may be organized.

3. That the District Economic Superintendents should be asked to visit Badanval and be made responsible for reorganizing similar work in one centre in each district, the services of Spinning Demonstrators trained at Badanval being utilized for such work."

Bombay Jail Industries.

By "Scrutator".

In July 1926 the Government of Bombay appointed a Committee to investigate the question of the reorganization of the Jail Industries in the Bombay Presidency. Of this Committee Mr. G. A. Thomas, C.I.E., was the President and Lt.-Col. J. H. Murray, C.I.E., Messrs. F. C. Griffith, C.S.I., O.B.E., J. J. Watson and W. M. Schutte, A.M.I.M.E., with Mr. I. H. Taunton, I.C.S., as Secretary, were members. The report of the Committee was submitted in October 1926 and has since been under the consideration of Government who have now issued their orders on it.

The specific recommendations made by the Jail Industries Committee were as follows :—

(1) The Salvation Army should be approached with a view to setting up an organization for finding employment for released prisoners and keeping in touch with them.

(2) Extra-mural labour on behalf of the Public Works Department and public bodies should be encouraged in the vicinity of jails.

(3) Cottage industries should be concentrated on the principal articles consumed by Government departments, which are—

(a) Cotton textile (including carpets and coir, etc.)

(b) Cane work.

(c) Small wooden goods for the Stationery Department.

(4) Goods produced by power-driven machinery should be disposed of only to Government departments and public bodies, and not by private sale.

(5) A weaving-plant of 50 looms (with room for extension) together with a dyeing plant should be installed at the Nasik Jail.

(6) The purchase of jail-made goods should be obligatory on Government departments subject to certain safeguards.

(7) Prices for hand-made goods to be fixed by adding 20 per cent (for articles sold to Government) and 33 per cent (for articles sold to the public) to the cost of raw materials with a $2\frac{1}{2}$ per cent allowance for wastage provided that the market price be not exceeded. For machine-made goods these percentages should be added to the cost of raw materials *plus* cost of technical staff *plus* allowance for depreciation.

(8) Cotton and woollen yarns should be purchased centrally by the Inspector-General of Prisons. Other raw materials may be purchased by Superintendents subject to the sanction of the Inspector-General of Prisons on orders over Rs. 100.

(9) (a) Inspector-General of Prisons should maintain an up-to-date list of jail-made articles largely used by Government departments and keep sufficient stocks thereof.

(b) Prices for the following financial year should be fixed in August by a Committee consisting of Inspector-General of Prisons and representatives of the principal consuming departments.

(c) Articles should be standardized and samples kept at each jail.

(d) Disputes as to quality should be decided by a Committee consisting of representatives of the Jail Department and the purchasing department concerned, and the Director of Industries or his nominee.

(10) Sales to the public should be conducted either direct from jails or through local shopkeepers on commission.

(11) No change is needed in the present system of accounts for cottage industries; but the Accountant-General should be asked to advise on a costing system for power-loom manufactures.

(12) A weaving master should be entertained as an experimental measure at Yeravada for a year to supervise hand-loom weaving.

(13) Orders for sheets and pillow cases used by the Medical Department and the Royal Indian Marine should be placed with the Criminal Tribes Settlement Officer.

Recommendation (1) is being considered separately, while recommendations (3), (5), (7), (9), (10), (11), (12) and (13) have been accepted. As regards (2) Government already issued orders over a year ago regarding the employment of jail labour on suitable extra-mural works within a radius of three miles of the jails and requesting the Executive Engineers and Superintendents of Jails to co-operate to the best of their ability for this purpose.

As regards (4) Government do not consider it necessary to enforce as an absolute rule the stipulation regarding private sale, but direct that orders from the public should not be carried out while work for Government or local bodies is on hand. In the event of surplus goods being available for sale to the public, prices will be fixed so as not to compete with the ordinary market.

With regard to the recommendation for the purchase of jail-made goods by Government departments, Government have instructed all officers serving under the Government of Bombay (except at Aden) who require for official purposes any articles mentioned in the schedule below must obtain them from the Jail Department by application either to the Superintendent of the nearest Central or District Prison, or to the Inspector-General of Prisons. The Inspector-General of Prisons has been called upon to submit to Government immediately and on the 3rd January in each year hereafter a price list of the articles named in the schedule and of any others which may be added thereto in the future. The prices quoted by the Jail Department will include delivery at the Railway Station or Post Office nearest to the Indenting Office. The price list as approved by Government will be widely circulated and will remain in force for such period as may be directed by Government. Each jail manufacturing any articles mentioned in the schedule must maintain standard samples of such articles. Government orders specially emphasize that heads of departments must see that these orders are strictly complied with and a special procedure for enforcement is laid down in this connection. Furthermore Government have directed all heads of departments to submit their report at the close of each calendar year on the working of these orders.

In the event of any dispute arising between the Jail Department and the consuming Departments regarding the quality of the articles supplied, the matter will be referred to a Committee consisting of a representative of the Jail Department deputed by the Inspector-General of Prisons, a representative of the Department concerned deputed by the head of that Department and the Director of Industries or an Officer of his Department deputed by him. When an indenting officer is unwilling to take delivery of a consignment of jail-made articles, he should inform the Director of Industries of his objection within one week of the receipt of the consignment, sending him a sample or samples of the consignment bearing the seals of the Jail Department and of the consuming department with dates. The Director of Industries will then assemble an Arbitration Committee within one week of the receipt of the indenting officer's complaint to decide the question whether the articles should be wholly or partially rejected. The decision of the Committee will be final and binding in each case.

The articles in the schedule above referred to are:

- Towels; Dusters.
- Single Dungri cloth, white or blue.
- Double Dungri cloth, white or blue.
- Cotton Dhurris and Carpets.
- Woollen Carpets.
- Mattress Ticking.
- Cot Tape. Newar.
- Coir matting and door mats.
- Cane chairs and other articles made of cane.

Stationery Department:—

- Cane correspondence baskets.
- Waste paper baskets.
- Rulers.
- Hand blotters.
- File strings.
- Narrow tape.

European Economic Conference.

Application of its Recommendations.

League of Nations, Geneva, 7th July 1929.—A report on the application of the recommendations of the Economic Conference from May 1928 to May 1929 has just been published by the Secretariat of the League of Nations. This report will serve as a basis for the work of the Consultative Committee which met at Geneva on May 6th, with M. Georges Theunis, former Belgian Prime Minister, in the Chair.

It will be remembered that the Consultative Committee, which comprises some sixty members, was composed with a view to facilitating the consultation and co-operation of all commercial, industrial, agricultural workers and consumers' circles. It usually meets once a year. Its instructions from the Assembly are to follow the application of the recommendations of the Economic Conference of 1927, and secondly to examine whether and to what extent the application of these recommendations during the past year is due to autonomous action by States, to treaties concluded between them or to work on an international scale undertaken more particularly by the League Economic Organization.

The document that has just been published describes from these three points of view the present situation in regard to trade, industry, agriculture and various general economic questions. It describes the League's economic work during the past year and concludes with a general statement of the world economic situation in 1928.

Below will be found an analysis of this general statement and indications concerning the other parts of the Report.

I.—Economic Conditions in 1928.

The year 1928 is described as a period of consolidation of the world economic position which had improved considerably in 1927. The Report contains the following passage:—

"The aggregate production of wealth in 1928 was certainly not below the level of the preceding year. The output of foodstuffs and raw material was either maintained or increased. In the extractive and manufacturing industries, further headway was made in the policy of rationalization. International trade continued to increase not only in volume but also in value. Economic life in general enjoyed the benefit of greater monetary stability, the effects of which were naturally particularly marked in Europe.

"But the process of consolidation has been neither uniform nor easy; in many directions there was no advance and even retrogression during the year. That the readaptation of production to demand in a number of industries is still far from having been completed is proved above all by the year's record of unemployment. There has been over-production in several industries, others have suffered from a falling off in demand, while in others again the process of rationalization has reduced the labour strength required. The depression in the sugar industry continued, the fight for coal markets became more intense, and the situation of the timber trade, and in many countries, of the textile industry remained unsatisfactory. Towards the close of the year, there was a distinct falling-off in production in certain countries attributable in part to industrial disputes and in part, no doubt, to credit conditions."

As regards agricultural and industrial production in 1928 attention may be drawn to the following statement:—

"The record of the world's productive activity in 1928 shows somewhat different results for agriculture and for industry. Agricultural production, as a whole, increased considerably, though unevenly, in volume; but, owing to the downward trend of prices, it is difficult to estimate yet whether there was any substantial increase in total selling values. The data concerning industrial production convey the impression that the rate of advance tended to slacken in 1928. While production generally averaged higher than in recent years, and notable progress was realized in some directions, the level of 1927 was not maintained in all industries or in all countries. On the other hand, the falling tendency of prices was largely arrested during the course of the year although several important trades continued to suffer from price depression."

The Report gives more definite details for certain countries as for certain special branches of agricultural and industrial activity. It mentions a series of factors which are considered as particularly important, namely:—

1. The wheat crop in 1928 was the largest since the war; the world surplus in 1928-1929 was estimated at 110 million quintals, *i.e.*, twice as much as that of the preceding year.

2. The British rubber restriction scheme put into force in 1922 was abandoned and, as a

consequence, the shipments of plantation rubber were 31 per cent in excess of the average for 1922-1927.

3. The sugar market was particularly affected by the abolition of measures restricting output in Cuba, by the rapid growth of production in Java, and by new fiscal and protection measures.

4. The world production of coal was over 35 million tons less than in 1927, a fact that was due to a lower output in the United States.

5. The production of crude oil increased considerably in Columbia and Venezuela, the latter country being now the second oil-producing country in the world.

6. The share of Europe in the total production of iron and steel diminished and, in contrast to 1927, the United States' steel output again exceeded the combined production of European countries.

7. Unemployment difficulties were accentuated in a number of countries (Germany, Great Britain, the United States, Union of Socialist Soviet Republics), but the situation improved in others (France, Belgium, Italy, Norway).

The commercial situation in 1928 is described as follows :—

"The aggregate value of international trade continued to increase in 1928 but the rate of advance was slower than in 1927. In that year, the recorded value of trade in terms of dollars increased by 4 per cent ; in 1928, according to preliminary information covering about 85 per cent of the world total, the corresponding rise amounted to some 3 per cent. The decrease in the general level of gold prices, if any, was probably small and it may therefore be concluded that, although the *quantum* of goods exchanged internationally increased, the rate of increase was less than in the preceding year when it was estimated at 8 per cent.

"The rate of growth in Europe appears to have lagged somewhat behind that achieved in North America and in the world as a whole. The tendency which manifested itself in 1927, when European trade developed by not less than 13 per cent, seems to have been reversed.

"Within Europe, the headway made was almost entirely due to the central and eastern countries and, to a less extent, to the larger imports of the fringe of northern countries. In Western and Southern Europe (representing about 60 per cent of the trade of the Continent), no marked change in the value of trade is registered.

"Complete data for South America are not yet available but it seems probable that the ly during the last twelve months was North America. Canada, indeed, enjoyed a year of unprecedented economic prosperity and her total trade rose by 11 per cent. The United States not only maintained her position as the world's leading commercial country but increased the excess of exports over imports by some $372 million. The gross exports (not net) of capital from the United States, including all forms of investment abroad, are reported to have risen in 1928 by some $102 million as compared with 1927.

"*From the information available, it would* appear that, in all the leading commercial countries of South America, trade continued to develop. Particularly striking are the very substantial increase in the exports of Chile and the continued prosperity in the Argentine, whose trade advanced even beyond the exceptional levels reached in 1927.

"Indian exports, which have contracted in recent years, showed a slight recovery, while in New Zealand record figures were reached. On the other hand, the exports from Australia were slightly and the imports into Australia *very substantially lower than in 1927.*"

The remarkable stability of prices in 1928 is another fact brought out by the Report.

"It is difficult to trace any general trend other than the inevitable tendency for the gold indiprice ces, now currencies are more generally stabilized, to converge and the consequent upward movement in those countries where the level ruling was below that of the rest of the world."

As regards the financial position, the Report states :—

"During the course of the year, further progress was made in the stabilization of currencies and in the consolidation of public finances. The Italian reform, the elaboration of which was completed in the preceding December, was put into force early in the new year as was also the Estonian currency reform which entered into application on January 1st. In the succeeding months, seven other countries, namely, Luxemburg (February), Norway and Siam (April), Greece (May), France (June), Bolivia (July) and Bulgaria (November), established the definitive stabilization of their respective currencies. Further, since the close of the year, Roumania has issued an international loan for the same purpose and a new fixed parity for the leu has been laid down. Preparatory measures with a view to ultimate currency reforms are likewise under consideration in China, Japan, Turkey and other countries."

have resulted in a growing demand for gold on the part of a number of newly established or re-organized central banks, and this demand has been accentuated in the last year or two by a certain change in the policy of countries operating under the gold exchange standard."

II.—APPLICATION OF THE RECOMMENDATIONS OF THE ECONOMIC CONFERENCE.

Trade.—The report contains an analysis of the results obtained by the three methods recommended by the Economic Conference as calculated to bring about a reduction of customs barriers :—

(*a*) *The autonomous action of Governments* had some immediate success. The proposed increases in tariffs contemplated at the time of the Conference were substantially modified. But in 1928 there were no noteworthy reductions of tariffs due to autonomous decisions. It would even seem that there was a tendency towards increased protectionism.

(*b*) *Bilateral Conventions* had some important reductions to their credit in 1927. In 1928, on the other hand, numerous commercial treaties were concluded without resulting in any reduction of tariffs ; it may, nevertheless, be said that there was a satisfactory tendency in favour of the wider application of the most favoured nation clause, as recommended by the Conference.

(*c*) *Multilateral action* (conclusion under the League's auspices of collective agreements with a view to greater liberty of trade) which in 1927 was only at its beginning, had more results to its credit than either unilateral or bilateral action.

On the first two points the Report gives details for 34 countries including the United States and the Union of Socialist Soviet Republics. It draws attention to the increase of tariffs in certain countries either as a general measure or as regards certain categories of wares. Forty-two commercial treaties were concluded during the year.

As regards the joint action undertaken under the auspices of the League, the Report summarizes the work accomplished (Convention on the Abolition of Import and Export Prohibitions and Restrictions) ; preparation by the League Economic Committee of a doctrine of commercial policy ; the conclusion or preparation of collective agreements in regard to certain categories of wares, in particular, hides and bones ; the drafting of a unified customs nomenclature ; an enquiry into indirect protectionism ; the preparation of Conventions on the treatment of foreigners and the unification of laws on bills of exchange and cheques.

Industry.—The Report describes the progress made in the enquiries concerning rationalization and the scientific organization of work as well as the effects of rationalization on the position of labour. It draws attention to the investigations which are being conducted in regard to industrial agreements, laws and administrative measures concerning such agreements and their economic role. These studies are still being pursued. The Consultative Committee will be asked to give instructions or make suggestions with a view to their continuation.

The Report also describes the enquiries concerning coal and sugar and the possibility of international action on these two subjects.

Agriculture.—The Report gives information on the negotiations which have taken place with a view to more effective co-operation between the League and the International Institute of Agriculture at Rome. It describes the many-sided work on agricultural economy done on an international scale, thanks to the efforts of various organizations, in particular, the International Institute of Agriculture, which will submit a separate report to the Consultative Committee. An account is also given of the Economic Committee's work on animal and plant diseases.

General Questions.—The Report describes the results of the International Conference on Economic Statistics and of the meeting of Government Experts on Double Taxation and Tax Evasion. It also mentions the enquiry regarding economic tendencies affecting world peace and concerning the purchasing power of gold.

It contains a summary of the work of various international organizations such as the International Chamber of Commerce, the International Federation of League of Nations Societies, etc.

A list is given of the publications edited during the year by the Economic and Financial Section of the Secretariat, namely : The Memorandum on International Trade from 1912 to 1926, the first volume of this Memorandum, of the same memorandum for the period 1923-1927 ; and a Memorandum on Production and Trade for the period from 1923 to 1927 ; a Statistical Year-Book (in which the data given is in some cases for the period ending December 1927, and in others for that ending December 1928).

"There is no more important question demanding international co-operation and organization than that of spreading the population more evenly over the face of the earth."
—*The Rt. Hon. Philip Snowden.*

The Economist at Play.

An Automobile Trip.

New York City.—Shrieking sirens of a motorcycle police escort and congratulations from Acting Mayor McKee of New York greeted a wiry little Italian race driver and aviator at the conclusion of the first successful automobile trip linking North and South America.

Jose Mario Barone, Pan American trail blazer, who left Rio de Janeiro more than two years ago in a 1922 Studebaker Light Six touring car, arrived in New York, March 1. Nearly 20,000 miles of plain and mountain, jungle and desert, lay behind Barone as he drove along Broadway to meet the welcoming committee at the City Hall where he was presented by Judge Francis Mancuso of the Italian Historical Society, Count Roberti, Italian Vice-Consul and Paul Vaccarelli, Chairman of the Reception Committee.

The intercontinental trip from Rio de Janeiro to New York by automobile has tempted many dare-devil drivers from Latin America, according to Barone, who states that more than two score cars have started north, with New York as their objective,—and failed. Yet Barone and his battered Studebaker, which had seen more than 100,000 miles of "stunt" driving before the start of this journey, came through.

They came through despite avalanches, fever, and the vicissitudes of a long trail which cost the lives of three mechanics who had thrown in their lot with this adventurous little Italian at various stages of the journey.

Barone himself satisfies every popular requirement as the intrepid adventurer. He was a motor-driver in Northern Africa with the Italian army before he was out of his teens. At 34 he now looks back on a career as an aviator with the Italians during the world war, then as stunt driver, automobile racer, and one man motor car circus in Italy, Spain, Brazil and the Argentine. The crowning stunt of his circus performance is a "leap of death" in which he charges his car up a steep ramp, jumps a 30-foot gap and lands on another ramp.

He is a typical Latin—debonair, smiling, voluble, with a tiny silk Italian flag sewn on his worn leather driving helmet and another on the lapel of the extraordinary garment that serves him as overcoat, raincoat, and what not. He speaks no English, but one of his proudest accomplishments is the singing of "It's a long Way to Tipperary," which he learned from some British Tommies during the war.

Most characteristic of this wiry little man's personality is the startling emblem found on his car—similar to the one painted on the fuselage of his plane during the war. It is a white skull and crossbones superimposed on a big red heart. "My heart is ever in the hands of death," he will explain.

The car Barone used in staging his "circus" was the same 1922 Studebaker he so proudly drove into New York. It was purchased in 1924 as a used car. More than two years of stunting and racing was the "breaking in" it received for the trip which was to make transportation history.

The start of the tour was made in Rio de Janeiro, Brazil. With a companion, one Ugo Comelli, Barone started for Buenos Aires, arriving there 23 days later, and incidentally establishing a new record for this trip. To Comelli, Barone had pointed out that the expenses of the trip could be met by racing and stunting *en route*. The first of his races was entered in Buenos Aires. With it occurred the first tragedy of the trip. Comelli was thrown from the car as it plunged over the rough course and was killed.

Had Barone been able to visualize the hardships that lay ahead the trip would have ended right there. But denied such vision, he struck off with a new mechanic, Casimiro Scuderoni. Heading north from Buenos Aires, they soon reached the end of anything that faintly resembled roads. With nothing more than a compass, a rough map and the word of natives to guide them, they fought their way toward Bolivia.

Sometimes the way was open. More often they fought through the swamps and jungles of the interior, literally carving their road before them with machetes. Clinging vines and lush undergrowth were the least of their enemies, for fever stalked them at every hand. Barone fought it off, while Scuderoni slowly sank as they turned their course toward the Andes. In spite of the higher altitudes, there were days of delirium during which Barone's struggles with his companion were as racking as those required to move the car.

La Paz became a goal which meant the life of the mechanic. They crossed the Andes in the barren, stony region of Tres Cruces, where they were held up for two days by a blizzard. Finally they reached the city but too late. Scuderoni never recovered from his fever.

Barone pushed on, alone, toward Lima, Peru.

Progress during the first stage of this journey was fairly rapid. But from Cuzco to Lima dangers and difficulties beset the lone traveller in almost overwhelming numbers. The distance, as the crow flies, is some 300 miles. As Barone travelled, it lengthened to 900 miles. That leg of the trip required three and a half months of struggle through savage mountain wilderness. Natives engaged to help clear a way for the car plotted to kill Barone and steal his effects. Barone drove them away at the point of his gun, engaged other natives, and for two weeks ate nothing not prepared by his own hands for fear of being poisoned. His own supply of rations at last gave out, and for several days he was without food. At length—Lima, and fifteen long days in hospital before he was again ready to travel.

On again he went with a new mechanic,—Eugene Oresci. Slow progress over mountain trails, an occasional stream bed, an infrequent railroad right of way. Guyaquil, *via* Flores, Quaranda, Ambata, and at last Quito in Ecuador. Three hundred miles, and another four months.

Near Altaquer death reached again for Barone,—and took his mechanic. The edge of a mountain trail gave way and the car plunged down the steep slope. Barone suffered a frightfully maimed hand and lacerations about the face and body. Oresci was crushed so badly that death seemed inevitable. But five miles up the mountain was a village. Blinded by sweat and blood, Barone bore his suffering companion to the cluster of huts. No doctor,—only a priest, but by that time the priest alone was needed. Barone and the priest buried the man the next day.

The car was a wreck, crushed by boulders and half buried in the fallen rock. With the help of natives Barone literally took the car apart and carried it to the village. There, with his own kit and the aid of a local blacksmith, he re-built the car and went on,—again alone.

Another mechanic, Alesandro de la Torre, threw in his lot with this miraculous midget of a man at Cali, Colombia. Together they struggled on. Travel was slower than ever. At length they reached Panama. The only way across the Isthmus was by water,—or the tracks of the Panama railroad. Armed with a special running order as an "extra train", and accompanied by R. E. Hopkins, Studebaker's Panama distributor who is an old time conductor, Barone took to the ties. After months of the jungle it seemed a boulevard to Barone.

Central America offered more struggle through jungle and swamp. Much of the distance Barone drove a burro ahead of him. If the burro sank in slime to his middle, Barone knew the car could not get through, and either cut a detour, or made a new roadbed in which the car would not sink over the hubs. In spite of these precautions the car many times was mired so deeply that the wheels almost disappeared in muck and water. Punta Arenas and Costa Rica were behind them. Then Nicaragua, bandits and U. S. Marines.

Sandino's bandits caught him first. They took Barone's money, his gun, 10,000 feet of precious motion picture film. The Italian begged the return of some clothing. His car was such a dilapidated wreck that the natives thought it worthless and finally allowed Barone to proceed.

The Marines gave him food and some clothing—and much advice. They forbade him to continue overland, and after he had cabled for funds, saw him load his car on a boat and start up the coast. Once past the Marine lines, he was soon ashore again.

At San Salvadore he was joined by Alfredo Massi, a boyhood acquaintance. Massi replaced his mechanic who had had enough. Guatemala City, and then Mexico, where he found roads once again,—and more bandits.

In Mexico Barone picked up his last mechanic, Harry Knauff, a Pennsylvanian who had come to seek his fortune in Mexico. But he was homesick for the north. He begged what became the longest hitch-hike in history.

Barone and his battered Studebaker crossed the border into the United States at Laredo, Texas, then followed a route through Oklahoma, Missouri and Illinois to South Bend, where he showed his car to the men who had built it seven years ago. From there he followed the Lincoln Highway into New York City,—to journey's end and a glorious welcome.

The worst part of the trip? Barone makes a grimace and says it was between Cuzco and the coast of Peru before reaching Lima. No roads, hardly even a mule trail for much of that mountainous journey. He faced not only the antagonism of the savage natives but hunger and possible failure through exhaustion of his gasoline and oil supply. His oil, in fact, was exhausted during one stage of this terrible trip. But Barone discovered that the Indians hoarded a sort of crudely refined pork fat in long bamboo containers. He secured a supply of this makeshift lubricant which would flow after a fashion if sufficiently heated. It worked.

The crash which killed his mechanic, Oresci,

was not the only one on this adventurous trip. Three other times Barone and his car took flying tumbles but always the indomitable *little Italian* was able to continue. *That* repairs were often of the crudest sort is indicated by the reference made by a Panama newspaper to a home-made wheel on the car as it rattled into Cristobal.

Barone bears many marks of his struggles. His right leg is badly scarred from the tumble in Colombia which killed his mechanic. There, too, he lost most of one finger which was crudely amputated on the spot. As he was thrown out of the car he struck his forehead against the windshield. The bridge of his nose was cut so deeply that for months he was uuable to breathe properly. His encounter with bandits *in Nicaragua brought him a flesh wound in the* right arm where a bullet passed through his elbow just as he was aiming a shot at his assailants.

Some day in the future a great highway will be a bond of friendship linking the two Americas into one community. Then the experiences of Jose Mario Barone will seem as far away and romantic as the first pioneer caravan of covered wagons that won its way to California across the great American desert.

Canadian Trade and Finance.

Aviation and Trade in South America.

Montreal, May 30, 1929.—By the end of 1929, it will be possible to travel by air from Montreal to Santiago, Chile, across the lower Andes to Buenos Aires and to return *via* the Brazilian coast to New York and Montreal. There are air *lines in every country of South America* and many of them are in daily use. This great improvement in the communication facilities of the continent has been made in the past eight years, before which period no commercial aircraft were in operation, and already its influence upon the development of South American republics is apparent.

On that vast continent where the population is engaged chiefly in the production of raw materials and where distances between large centres of population are so great, trade development is particularly dependent on the means of communication and transportation. Argen*tina has the most extensive railway system of* any country south of the United States; and her rivers are navigable the year round. This may have much to do with the fact that her foreign trade is over 50% of the total commerce of the continent, and that among the nations of the world she ranks as thirteenth in per capita trade. Other countries on the continent have not the topography favourable to the building and maintaining of surface transportation, the costly and difficult nature of which has been an important factor in their rapid advance in the field of aviation.

The greatest development in aerial transport *in South America is found in Colombia and Peru*, the rich, mountainous countries of the north and west. Colombia's main artery of communication is the Magdalena River whose shallowness has made the introduction of supplementary facilities essential. This need has given the country precedence in South American aviation, both in priority and in efficiency. As early as 1921, the "Scadta" was operating a weekly aerial service over the Magdalena as far *inland as Girardot, some 800 miles from the* Atlantic Coast. Girardot is connected by train with Bogota and the commercially importaut district surrounding that city. The company is now operating on a daily schedule and carries freight as well as mail and passengers. The fare by hydroplane to Girardot is $250 whereas to travel by river boat costs only $40; but the journey has been reduced from one of at least eight days and nights to one of eight hours, and the travelling conditions of the two routes are not comparable. There is a branch line to the coffee-growing district of Bucaramanga in the east, one to the banana region of Santa Marta *near the Atlantic Coast, and a third serving a* district 100 miles south of Bogota. For the traveller who wishes to reach the Pacific Coast region from the Magdalena River Valley, there is the route from Barranquilla at the mouth of the river, across the Andes to the Pacific port, Buenaventura. He may make several stops along the way and complete the journey in eight hours. The "Scadta" lines extend through Ecuador to Paita, in Peru; and their latest addition is the line to Cristobal in the Canal Zone where it links with services from as far north as New York and Montreal.

A peculiar need for the aeroplane is found in *Peru where the Andes separate the country into* two distinct economic units. The foreign commerce of the western province flows through ports on the Pacific Coast, while the eastern provinces use Iquitos, on the headwaters of the

Amazon, as their entrepot. As long as internal contact was possible only by a difficult overland journey of thirty or forty days, common interests were few: but a mail and passenger air service between Iquitos and San Ramon, the head of rail and motor transport from Lima, is proving a means of stimulating communication between the West and the East, and furnishes the basis for development of a stronger national unity.

The air transport companies operating along the coast and in the coastal valleys of Peru are filling a real need. Co-operation between these lines and steamship companies ensure a much more efficient transport service than formerly and mails are distributed with speed and regularity. Peru was the first South American country to make use of the aeroplane in dusting cotton fields, and this method of combating pests has been found very satisfactory.

One of the conditions for successful operation of air lines is long distance between the districts to be served. Brazil fulfils this condition. She has a coast line of over 3,000 miles, but with the exception of a network of railways serving the zone surrounding her capital city, and another in the coffee state of Sao Paulo, the hundreds of miles between economically important districts had, before the establishment of air lines, only steamship connection. Another factor which has worked toward giving Brazil air transportation is her proximity to Africa. Natal, in the north of Brazil, is many hundred miles nearer the eastern world than is any other point in the western hemisphere. This encouraged the French company who have been operating between Toulouse and North Africa for several years to extend their route by plane and steamship in 1928 to Natal, and thence southward along the coast to Buenos Aires, with stops at nine cities in Brazil and at Montevideo in Uruguay. Six countries are thus brought into close touch with one another and the trip from Paris to Montevideo requires only eight days. The hydroplane services operate only to the island of Fernando de Noronha on the Brazilian side and to Cape Verde Islands on the eastern part of the route, but it is expected that the fast steamers which now complete the Atlantic crossing will be replaced by hydroplanes within a short time.

Brazil has several internal services running on regular schedules. A subsidiary of a German company operates the full length of the coast and another company gives weekly passenger service between the cities of Rio de Janeiro, Santos, Paranagua, Florianopolis, Rio Grande and Porto Alegre in the extreme south. Porto Alegre is also on a separate line which serves two other cities on the shores of Lagoa dos Patos, a coastal lake 150 miles long.

In addition to these longer passenger routes in South America, there are local activities which may attract less attention, but play just as important a part in the development of the countries. Mining concerns in Argentina, Colombia and British Guiana, and oil companies in Venezuela are using planes for transport over difficult areas; surveying, dusting and photography from the air are activities well known on the continent; and several countries have their aero clubs and aviation schools. A singular service of the aeroplane to countries endeavouring to settle boundary disputes is that of surveying districts which could not have been mapped by any other means.

Perhaps the most important effect which aviation has had on trade development in South America is the quickening of outside interest in her potentialities. Now that communication by air has been established there, distances have been cut in half, and in many cases are only one-third of what they were in the past, with the result that the continent's possibilities may be more quickly discovered and widely understood among those who have the capital necessary for its development. The mail system has been transformed. Inland districts of Colombia and Peru need no longer wait weeks for mail, and Rio de Janeiro and Buenos Aires are only seven or eight days distant from New York and London. Trade contacts may therefore be made in as many days as it once took weeks, and the increased speed in the conduct of business cannot but react favourably on both internal and external trade.

Canadian Mining in 1928.

In his annual speech in 1927, Sir Herbert Holt, President of the Royal Bank of Canada, called attention to the general interest which was then being shown in the growth of Canada's mining activity, stating that the various camps had made continued progress during the year, and that large increases had been recorded in the production of copper, lead and zinc, and in nearly all the important metallic and non-metallic minerals in the country. He summarized the situation in the following manner:—

"Although the mineral industry is third in importance in Canada, the greater part of our land area is now unprospected and only sufficiently explored to indicate in a general way its main geological features and prospective mineral wealth. With technical prospecting reaching farther and farther afield and utilizing

scientific methods, I feel that the development of the mineral industry will be the outstanding feature of the next decade and it pleases me to say that in the majority of cases this organized expansion of the industry is being sponsored and financed by Canadians."

The development which was then under way has been partially reflected in the statistics of mineral production in 1928. New records of output were established for copper, gold, lead, nickel, platinum and zinc among the metals; for coal, gypsum, lime, cement and stone among the non-metals; and new records were achieved in the value of the output of natural gas and petroleum.

According to the preliminary report of the Dominion Bureau of Statistics on "The Mineral Production of Canada for 1928", the aggregate value of the output of Canada's mines amounted to $273,400,000, representing an increase of more than 10% over the total for the previous year.

Though the records of 1928 portray a remarkable growth as compared with 1927, yet the great majority of the more important mines in the newly discovered areas are not yet on a production basis and the actual trend of the present development will not be reflected in statistics of mineral production before 1930 or 1931.

GOLD PRODUCTION.

The total value of Canadian gold production in 1928 was 39 million dollars, placing Canada third among the countries of the world in gold production but the margin between the Canadian total and that of the United States was sufficiently narrow so that there is a good basis to expect that in 1929 or 1930 Canada will hold second place. The total production in the United States was 43 million dollars a year in 1927 and 1928. Thirty-two million dollars worth of gold came from Ontario, four million from British Columbia, one million from Quebec and smaller amounts from the Yukon, Manitoba, Alberta and Nova Scotia. The Hollinger, McIntyre, and Dome mines in the Porcupine area of Ontario held the first, third, and fifth positions, and Teck Hughes and Lake Shore held the second and fourth positions among Canadian gold mines during the year.

The present credit stringency in all parts of the world has drawn special attention to the constantly increasing demand for gold. Owing to the necessities of war-time finance, methods have been adopted to conserve gold resources, and at the present time, supplies of gold support a larger proportionate volume of credit than before the war. Yet even under present methods of administration, there is danger of a shortage, which would be likely to result in falling prices and depression. The present *purchasing power of gold is only about two-thirds* as large as that which existed under the price level of 1913. This reduced purchasing power is disadvantageous to producers and has reduced the profits in gold mining.

Education A Man Gives Himself.

"You hear or read that education is the 'great leveller'. Perhaps it would not be easy to imagine a statement more completely the reverse of the truth," said Lord Hewart in a speech reported in the *Times*. "There is nothing like it for bringing to light, and assessing the essential inequality between one mind and another.

You might, indeed, suppose, from some of the panegyrics and many of the jeremiads which are written about education, that it is a magical kind of petrol, and that, if only you could buy enough of it, you might produce an unbroken series of uniform results by pouring an equal quantity of it into every juvenile mind.

But petrol will not do that even for a motor-car. Something will always depend, for example, on the horse-power of the engine, and the question, "What opportunities of education are in this case open?" must always be accompanied or preceded by the question, "What capacity for being educated does this mind exhibit?" Again, you hear people saying that what is really wanted is an enormous development of technical instruction. Those who preach this gospel seem perhaps to desire not so much a body of educated persons as an army of trained apprentices.....

Yet, if there is education for life, there is *also education for livelihood*, and there is no insurmountable reason why something at least of the method and the temper which ought to inspire the one should not also add a grace to the other. Nor should we ever forget that the true function of education is to teach us how to learn, that the process ends neither with youth nor with middle age, but ought to continue through every year of our lives, and that when all grateful homage has been paid to schools and colleges, to teachers and to books, no small part of a man's education is that which he gives himself."

Indian Economic Notes.

Mrs. Kate Perugini, the only surviving daughter of Charles Dickens, whose death in her 90th year is announced by the Home papers, reminds one of her brothers, all of whom, it is strange to relate, passed away in exile. Walter Landor died in India, Francis Jeffrey in Canada, Sydney Smith at sea, Edward Bulwer Lytton in Australia, and Alfred Tennyson in New York. Mr. A. T. Dickens was a familiar figure in Melbourne for many years. His reminiscent lectures on his father achieved popularity in the Australian cities. He was ever a Bohemian. Unlike his other Australian brother, E. B. L., who was always careful of his personal appearance, A. T. D. made himself up, it has been remarked, to look like Mr. Micawbar and seemed to rejoice in dilapidated, weather-beaten hats. Possibly he took after his godfather, the late Lord Tennyson, who at times might have been mistaken for a tramp. As is well known, Walter Savage Landor Dickens was procured a cadetship on the Bengal Establishment and finds a last resting place in Calcutta. Charles Dickens, the novelist, was perhaps the greatest writer whose writings led directly to the *amelioration of social conditions in England*. To him, every social worker should turn for inspiration, whether in this country or elsewhere. That should be our excuse for noticing Mrs. Perugini's death in these pages.

Banking in India.

The following is from a note by one with *experience of Banking in India*:—The number of banks established in India to-day is entirely inadequate to the needs of her people. The latest Blue Book published by the Department of Statistics, India, shows that Banking and Loan Companies at work in India on the 31st March 1920 numbered 556. Their authorized capital amounted to Rs. 94,03,36,922; subscribed capital Rs. 20,56,19,264; paid-up capital Rs. 9,35,05,791, while Companies incorporated elsewhere than in India numbered 18 with an authorized capital of £4,35,55,000 and paid-up capital of £3,44,03,555. What India wants is Banks and more Banks. The problem of all problems in India is the poverty problem. The greatest minds of the country are engaged in solving it. There is poverty in India not because the country is too poor in natural resources to sustain its population or that, as is properly supposed, the Government in vogue is too costly, but because the tremendous power of capital is neither recognized nor understood. Banks collect money which is lying idle, enable its owners to earn interest and with that money they promote trade and industries. In the bad days when there was no security either of person or property, the only safe place to keep treasure and valuables was either under the ground or on the person of the owner. *Even at the present day we find poor* labourers investing all their savings in silver anklets and silver and gold armlets. The hoarding of silver rupees and bullion is still not uncommon in villages and small out-of-the-way places. This is not only a wasteful way of making use of one's savings but is also risky as there is the chance of being robbed. I read not long ago that Jumbulingan, the notorious dacoit of South India, carried off Rs. 3,000 in silver rupees from a villager's house near Tinnevelly.

The buried wealth of India, I understand, is somewhere in the neighbourhood of 400 millions sterling in value. If even one-fourth of that sum could be attracted to agricultural, industrial or Joint Stock Banks, what could not business men do with it! The leaders of the people are unfortunately unaware of the power and *might of the capital*. The *glamour of pure politics* seems to have confused them to the exclusion of everything else. The surest and easiest way of attaining Dominion Status or complete independence is to acquire wealth which alone is the key to power and greatness to-day.

Bombay Provincial Co-operative Bank.

The Report of the Bombay Provincial Co-operative Bank, Ltd., of which the late lamented Mr. B. F. Madon was the Chairman, shows steady progress. During the past year (ending 31st March last) the net profit earned aggregated about Rs. 1,63,849 and the dividend proposed to be declared was 8 per cent for the whole year. There was, during the year, an increase of Rs. 14 lakhs in the resources of the Bank. But though, for some years past, there has been a substantial increase in the Bank's resources, this has not been accompanied by any appreciable expansion of business within the Co-operative movement in the Bombay Presidency. This is a matter for sincere regret. As a matter of fact, there was a fall of over Rs. 4 lakhs in the advances made to co-operative societies and banks. The increased resources *have accordingly been deposited in other banks* at short-term deposits. We note three new branches were opened during the year and these have been useful in reviewing the

activities of stagnant societies. These activities have resulted in an improvement in the standard of recoveries. To finance land mortgage business on co-operative lines, the Bombay Government were pleased to sanction the purchase of Rs. 2,00,000 out of the new debenture issue at 88 per cent, the then prevailing rate for the Government of India 4 per cent loan repayable in 1960-70. The Trust Deed to secure this fourth series of debentures has been registered but as the three co-operative land mortgage societies started in different districts of the Presidency have not yet commenced submitting applications for loans, the terms on which the remaining 3 lakhs worth of debentures will be taken up by Government have not been settled. It is to be hoped that the Land Mortgage Societies referred to will seize the opportunity offered to them and begin operation without delay.

Aviation in India.

Elsewhere in this issue of the *Journal* will be found in our Canadian letter a very interesting note on *Aviation and Trade in South America* to which we would invite attention in India with its parallel conditions. In South America intense aviation has wrought the whole continent closer, curtailed time and distance in transporting, and speedily opened up potential possibilities of the country which otherwise would have taken indefinite time and energy. South America is a raw material producing country like India and aviation has quickened trade development—both inland and foreign—by time-saving aerial transportation. For us, in India, the South American lesson must take effect in interlinking vast distances for trade prosperity. Sporadic attempts at aerial transportation would be a costly futility. Intensive aviation would confer a boon on India as it has already done in South America.

Indian Tea Industry in 1927-28.

The *Review of Agricultural Operations in India for* 1927-28 is worth the attention of tea planters all over the country. Eighty-one per cent of the total area under tea in India is in Assam and the two contiguous districts (Darjeeling and Jalpaiguri) of Northern Bengal. The area of 752,900 acres occupied by the tea bush during 1927 was nearly 2 per cent larger than in the preceding year. Although the area plucked was also higher by 900 acres, the estimated yield of 390,920,000 lbs. worked out at 562 lbs. per acre plucked, as against 565 lbs. in 1926. The largest decline in production was in Assam where, owing to unfavourable climatic conditions, the yield was 6 million lbs. less than in 1926. The tea industry had, however, another prosperous year; for, exports increased and prices throughout the season were well maintained. The exports by sea, amounting to 362 million lbs. and valued at Rs. 32,48 lakhs, were higher than those of the previous year by 4 per cent in quantity and 12 per cent in value. In addition, nearly nine million lbs. left the country by land. Less than eight per cent of the crop was thus left in the country for local consumption.

The scientific staff of the Indian Tea Association continued to investigate problems relating to (1) the effect of manures, and pruning and cultural operations on the yield, (2) the diseases and pests of the bush, and (3) the quality of the leaf as affected by the processes involved in its manufacture. Cultural experiments in progress at Borbhetta have supplied the evidence that so far as tea is concerned the major factor in cultivation is the suppression of weed growth and not the stirring of the soil. Careful pruning when supplemented by spraying with lime sulphur has been found to reduce the damage done by the red spider. In Southern India, the crop is dealt with by the scientific staff of the United Planters' Association. At the tea experiment station at Nellakotta, calcium cyanide has proved an efficacious insecticide for the *Helopeltis* pest which is responsible for considerable loss in tea gardens.

A New Industry in Calcutta.

Mr. Nripendra Nath Roy, a native of Dacca, has just left this country. He is now on his way to Calcutta where he is to establish the Indo-Burman Chromium Plating Company. A graduate of Calcutta University, where he got his B.S. he then studied chemistry in Dacca University. From there he went to the Technische Hohschule in Charlottenburg where he took up German and Engineering. Later we find him securing his B.S. in chemical engineering at the University of Michigan. His prominence was such that the General Motors Company immediately secured him to do experimental work in heat treating and he was also attached to their research laboratory where he has distinguished himself in the perfection of electro deposition of metals. He now leaves America as one of the leading personalities in his field to establish a new industry in India. This is all the more remarkable when it is considered that very few countries in the world have similar plants. Before leaving Mr. Roy was the guest of his friends at the India Lecture Bureau and many saw him off when he sailed as a pioneer of science for

his Motherland. Among friends to see him at the pier were Messrs. Shomi Nath Shastry, Nirmal A. Das and U. S. Banerjee. American metallurgical engineering loses an important leader in Mr. Roy.

SANDALWOOD INDUSTRY IN MADRAS.

The following is an extract from the Administration Report of the Forest Department, Madras Presidency, for the year 1927-28:—A total quantity of 677 tons of sandalwood was sold and fetched Rs. 9,24,295. The sales took place as usual at Tirupattur, Vellore and Satyamangalam, the quantities sold at the respective places being 418½ tons, 53½ tons and 205 tons. The average price realized for all classes during the year was Rs. 1,365 per ton as against Rs. 1,286 per ton realized in the previous year. The year's output, though smaller than that of the previous year by 47 tons, is yet far in excess of the ordinary possibility of the forests. This, as was explained last year, is due to the necessity of extracting trees killed by spike disease. Investigations relating to this obscure disease are being undertaken by the Institute of Science at Bangalore and field experiments are in hand in North Salem division. Since the disease kills young and old trees indiscriminately, much of the sandalwood revenue comes inevitably from trees which normally would be too young and small to exploit. This unfortunate but inevitable extraction of immature trees must, in the course of time, result in a serious depletion of stock with a corresponding fall in the revenue from sandalwood. Fortunately sandalwood regenerates itself readily from seed and Nature is everywhere displaying a firm determination to spread the species, whilst the department is fully alive to the necessity of supplementing Nature's efforts by artificial means.

PROPORTION OF ORGANIC TO INORGANIC MANURE.

The following is from the *Digest* of the operations of the Department of Agriculture, Madras, for April 1929:—The officers of the Agricultural Department are often asked what proportion of organic manure should be used in conjunction with artificial manure. The ryots generally have realized the necessity for using some organic manure in all cases and they are rapidly learning that this may be advantageously supplemented with artificials, *i.e.*, inorganic manure. They quite naturally ask what are the correct proportions to use.

This is a difficult question which the Agricultural Department must frankly admit they are not yet prepared to answer definitely. They are now engaged on a number of experiments and a lot of research work to find the right answer. They know already a good deal about it but they hesitate to be didactic because the answer must differ for different crops and different soils, and these vary so much in this big Presidency that it is impossible to lay down a hard and fast rule which will apply to all soils and all crops.

As a general rule, however, to which there are many exceptions, the more organic matter used the better will be the final result. Again, speaking quite broadly, it may be stated that the proportion of two of organic manure to one of artificial manure, based on their contents of nitrogen, are well adapted to give all-round good results. The actual doses of manures which should be given vary with different crops. Again speaking quite broadly and realizing that this rule does not apply everywhere and to all soils, we may say that in the case of cereals like paddy, ragi and cholam 40 to 50 lbs. of total nitrogen should be enough. At the 2 to 1 proportion that would be 28 lbs. of nitrogen as organic and 14 as inorganic, say a ton and a half of really good cattle manure prepared by the loose box method supplemented with about 80 lbs. of some artificial nitrogenous fertilizer like sulphate of ammonia. For sugarcane a total of 100 lbs. of nitrogen should be sufficient. For cotton the direct application of artificial fertilizers has not resulted in any of our experiments in increased production and the department advises the application of the manure to the cereal crop in the cotton—cereal—cotton rotation.

SUSHAMA DEBI'S SCHEME.

Sushama Debi, niece of Dr. Rabindranath Tagore, has formulated a scheme for the education of the masses in India. She suggests the creation of a "Society for the Abolition of Illiteracy in India," consisting of not less than twenty members representing the different provinces of India, the establishment of a Provincial Committee in each Province and the organization of a Rural Education Committee for a group of villages. The function of the Rural Committees will be to see that each village has a school for children. Where volunteer teachers are not available, their remuneration must be met from contributions in kind instead of in money from the guardians of the pupils.

Volunteer teachers, Sushama Debi ought to know, cannot be secured to-day in such large numbers as to meet the demand of the masses, and those who want remuneration will naturally prefer to receive it in coin instead of in kind. Sushama Debi is evidently thinking of the

system which generally prevailed in ancient India, and which prevails to a certain extent even to-day in many villages. Pathasalas and Madrasas situated within the premises of temples and mosques where the Pandit or the Maulvi was supplied with the necessaries of life by the pupils, cannot, for obvious reasons, meet the requirements of the masses in India, a very large number of whom belong to the depressed classes. The American mass education system with which Sushama Debi is familiar cannot be easily introduced in India.

India's Present Banking Strength.

At the All-Bengal Banker's Association recently held at Ranpur, the President gave these figures. There are 30,000 banks with a subscribed capital of £660,000,000 in America: 11,976 banks with a subscribed capital of £150,000,000 in *Great Britain*; 7,464 banks with a subscribed capital of £110,000,000 in Japan and 596 banks with a subscribed capital of £10,000,000 in India. This gives a proportion of 2 banks for every 10 lakhs of people.

Topics in the Journals.

The Railway Asset of India.

When, consequent upon the recommendation of the Acworth Committee, the Government of India decided upon State ownership and management of railways, there were not a few sceptics who were dubious about the ultimate success of the colossal experiment. More than five years have elapsed, and to-day we are in a position to take stock of a few achievements of the magnificent State enterprise. Needless to say they have been gratifying and nearer our expectations. The worst fears of those who doubted in the capacity of the State to undertake this gigantic enterprise have come to nought, says *Cotton and Finance*.

The *Indian State Railways to-day constitute* a gigantic asset worth Rs. 733 odd crores, of which lines both worked and owned by the State are valued at about Rs. 436 crores, the remaining being made by lines owned by the State but managed by joint stock companies and Indian States. The total interest payments on this capital at charge in the last financial year 1927-28 were about Rs. 27.2 crores. The gross earnings for the same year were Rs. 105.5 crores, while the total expenditure was Rs. 94.6 crores, thus leaving a surplus of Rs. 10, 9 crores. The return on capital, therefore, works out at 1.38%. According to the arrangement by which the railway budget was separated from the general budget from 1925-26, *viz.*, 1% on capital at charge plus one-fifth of surplus profits and one-third of excess above Rs. 3 crores to be treated as reserve fund, the total contribution to general revenues in 1927-28 was Rs. 6.3 crores.

Nearly 700 miles were opened to traffic during the year, thus bringing the total mileage open to traffic to about 53,800 miles. It is interesting to note that to Rs. 105½ crores of gross earnings goods traffic contributed about 60% and passenger traffic about 39%. There has been a very noteworthy increase in the number of passengers carried as is borne out by figures which show that whereas in pre-war years the total did not exceed 400 millions, the figure reached in 1927–28 was well in the neighbourhood of 623 millions, of whom nearly 595 millions travelled third class, and nearly 85% of the total passenger earnings were brought in by them. The main commodities which from the mainstay of the goods traffic earnings are coal, grains, oilseeds, raw cotton, metals, sugar and mineral oils. Indian State Railways find livelihood fo over 8 lakhs of people, the cost of staff in 1927–28 being about Rs. 37.8 crores.

These are some of the salient features regarding the Indian State-owned railways. The great merit of the scheme by which the railway and general finances have been separated is that it guarantees a definite minimum contributions to the general budget, thus relieving the latter from fluctuations in railway revenues owing to the vagaries of the monsoon. Another great merit of the arrangement is that while it ensures for a fixed sum below which the contributions to general revenues cannot fall, it makes an adequate provision for the future development of railways by creating a reserve fund which annually receives an accretion not below Rs. 3 crores. As the general budget is made independent of the results shown by the working of railways, and as the contribution fixed is to be a first charge on railway receipts, the railway are made independent of general revenues of the country in so far as their future expansion and widening of activities are to be ensured by an ever-increasing reserve fund. The main objection of those who had opposed the separation of railway finances was that the general tax-payer had borne the burden in the past when railways were a losing concern, and that as now they are paying it would be inequitous not to give him the fullest relief possible. No doubt this contention had a large measure of truth but the general revenues were allowed to claim only a part of the surplus profits, the rest going to the railway reserve fund, because the larger interests of railways were kept in view. If the future growth of railways in *India was to be what the people had asked for*, it was absolutely essential that sufficient means should be found for them, and that, therefore, the railway programme should be quite unaffected by the varying fortunes of the general budget.

We submit that the most urgent future problem for railways in India will be one of economy, and that the extent to which needless activities and wasteful routine methods will be got rid of, the administration will improve in efficiency in a corresponding degree. That our contention is true is strikingly borne out by figures; the percentage of working expenses to gross earnings of State Railways is estimated at 63%, and it is indisputable that such a relatively higher ratio does not obtain in the working of railways in other countries. Other countries apart, there is a noteworthy example of lower operating expenses neare

home: whereas the ratio, as just stated, in the case of State Railways for 1927-28 was 63%, that for railways managed by private companies and Indian States was not more than 53%. High operating costs naturally react upon profits, and if we examine statistics the same difference is reflected in return on capital invested; *the working of State Railways yielded only* 5.4%, while other privately managed railways were able to show as high a return as 7.5%. Of course these figures are to be interpreted with a certain reserve as it is unfair to institute comparisons between State and company management statistically; still the difference is appreciable and it serves to show that considerable economies can be effected by the State if there is earnestness about the task.

There are directions in which the people have desired for progress but which has still not taken place. The establishment of a Rates Tribunal was a move in the right direction, but its advisory functions considerably detract from its value. We shall reach an important stage in the history of railway development *when that body is properly constituted and invested* with executive authority in matters relating to such a vital problem as rates fixation and regulation. The desired improvement is bound to come in course of time, and as the administration benefits by the accumulated experience. In the long run the policy of nationalization will be declared to have successfully served the purpose, and we would be well advised not to adopt a hesitating attitude but forge ahead with progressive natoinalization of those railways which though owned by the State are still under the control of private companies. As we said before, the railways which are still operated by companies have been purchased by the State at a cost of nearly Rs. 295 crores. The Secretary of State for India has an option to transfer *their management to the State at any time he likes*, and though such a step will result in a great expansion of the railway administration, we believe it will be fully able to shoulder that burden without any great difficulty. It is better to do away with such an anomalous position which leaves a substantial part of State property to be administered by outside agencies. In matters relating to the management of public utility concerns a State should go the whole hog.

Co-operation and the Linlithgow Report.

The revered and veteran co-operator Mr. Henry Wolff writes in the *Bombay Co-operative Quarterly*, December 1928, touching on the *view of the Agricultural Commission that* Government alone must sponsor the Co-operative Movement in India for many years to *come. He writes:—*

The Co-operative Movement was started by Government initiative and under Government rule; it has also of necessity during its early stages had to be kept rigidly under Government direction. It is of the essence of co-operation that it should be directed and controlled by its own members in full freedom and "*self-determination*"—*subject*, of course, to observance of the country's laws. In Great Britain, it is the Co-operative Union which governs itself according to its own decisions. On the European Continent—*including Germany in which Government interference* is most freely practised, but also co-operative organizations are variously developed—it is the several co-operative unions which appoint their own leaders and officers, lay down their own rules and control themselves.

Now the question may be asked: Has or has not, the time come for partial emancipation of the movement *in India in similarity with the universal rule.* The answer is "Yes" and "No". Over the whole expanse of India, there is undoubtedly wide ground still, on which there is no ripeness whatever for the change. *But there* are happy cases in which co-operation has prospered and entirely fitted practising co-operators to undertake their own management. Government withdrawal from the movement would be directly damaging. But if, as a beginning, organizations found ripe for it could be given self government, one cannot help thinking that that import is a most powerful stimulus to the improvement and extension of co-operation, to the purifying of its action, to benefit of entire community. It could not fail to put more "heart" into co-operation, stimulating the leading men in it—whose speeches delivered at periodical gatherings and writing in co-operative publications prove not a few of them to be fairly masters of their subject—to more useful action. *It would doubtless bring more new ideas connected with the subject to* the surface, congenial to Indian sentiment and habits. Its pronounced Indian character would appeal with greater force to those still outside the movement to come into it. *It would* unite the co-operative organizations existing locally, or suggested by the Commission with dissentient voices and generally and so give them greater strength and create a co-operative opinion bound to assert itself compelling for good among the mass of societies.

"Am I Getting an Education!"

1. An educated man is one who is trained to use tools of human intercourse with readiness, precision and accuracy. We mean, especially, language and *the rudiments of number.*

2. An educated man must be able to study and to think without guidance from others. He must be, to some extent, a thinker, not a mere imitator.

3. An educated man must have sufficient knowledge of nature to understand the main processes upon which human life and happiness depend.

4. An educated man knows enough of history to enable him to understand the main achievements of man.

5. An educated man is acquainted with the major resources for intellectual and aesthetic enjoyment. He knows nature, literature, music and the other arts sufficiently to choose superior to inferior enjoyments.

6. An educated man is marked by his interests as *well as by his trained abilities. His attention is* habitually attracted by significant rather than trivial objects, events, pursuits and enjoyments.

7. An educational man must have not only this general culture, but also training for a specific occupation. Focalized activity that is directed toward some sort of efficiency has to be included.

8. An educated man must have toward his fellows the habitual attitudes that are commonly called ethical—such attitudes as honour and honesty, helpfulness and good-will and co-operation.

9. An educated man must have loyalties to at least some of the important organizations and institutions of society, such as one's family, one's country, one's church.

10. *If there is an inclusive meaning in life, the sort* of education that I have been outlining should include some apprehension of, and feeling for, the divine; the ideally educated man will reverence God, and know how to worship.

To determine whether your education is still alive

and growing, and not a dead and finished thing, Sherwood Eddy suggests answering the following questions :—

1. Am I learning to study and to think ?

2. Am I getting the knowledge that I need most ? Am I learning to enjoy things that are most worth while ? Am I acquiring aesthetic appreciation of the significant values of life ?

3. Am I living in the real world or in a corner apart ? Am I learning to live by living now ; by acquiring some vital knowledge of the world and its real problems by actually facing them and beginning to try to solve them now ? Or am I evading or postponing life playing about with its trifles in a thoughtless and unreal academic world ?

4. Am I progressing, standing still or going backward ?

Farming the Ocean.

Founded in 1902 the International Council was probably the first example of international co-operation of its kind. The work of research into oceanography and marine biology is divided among the various nations which are members of the Council sometimes by areas and sometimes by subjects. Thus there is, for example, a domestic arrangement between England and Scotland that the Scots shall direct their research to the life of the haddock, while the English scientists attend to the cod and with the co-operation of Sweden, the herring. Among the nations which belong to the Council there are no fewer than seventy marine biological stations and thirty vessels are devoted to these researches.

BIGGER FISH.

In an interview with the *Observer* recently Mr. H. G. *Maurice, Fisheries Secretary of the Ministry of Agriculture* and Fisheries, who has Since 1920 been President of the Council explained the nature of the work that is being done.

That branch of it which has most caught the popular attention suggests a vague possibility of "farming the ocean". This has reference to a famous series of experiments under Professor Garstang in which plaice were transplanted from the coastal grounds to the Dogger Bank. The transplanted fish were marked and an equal number of other plaice which were left in the original nursery was marked in the same way. It was found that the marked plaice on the Dogger Bank grew some 13 cms. in length in one year as against 6 cms. on the coastal grounds from which they were originally taken, and increased in weight by well over three times, while the fish left on the coastal grounds only doubled in weight. This was not an isolated result but was maintained with marked consistency through repeated investigations over a period *of eight years*.

Thus there remains no possible doubt that transplantation can be effectively managed but there is unfortunately no reason to think, Mr. Maurice says, that it can be made an economic proposition. Transplantation is still in the laboratory stage and there seems small indication that it will soon be ripe for commercial exploitation.

PRACTICAL RESULTS.

But it must not be supposed from this that marine biology is of purely academic value. From the beginning it has been a science with severely practical application. Its birth dates from the expedition of the Challenger in 1873 ; ten years later the Fisheries Exhibition at South Kensington provided a fresh stimulus. And it was just about this time that the practice of trawling for fish was first begun. When, to make the revolution complete, the trawlers went over to steam, it was very generally feared that there would be overfishing and that the fisheries would before long be exhausted. Worse still, it was argued that the trawl dragging along the bottom of the sea destroyed the sperm of the fish and threatened the fishing industry at its very root.

Here were two very practical posers for the new science to answer. The first difficulty solved itself for the use of steam enabled the fishermen to go further afield and the danger of over-fishing the North Sea was thereby diminished. But the second problem demanded the attention of the marine biologist. Research soon showed that since none of the food-fish except the herring lay their eggs in the bed of the ocean (while even the herring's eggs are layed on stony ground which is unsuitable for trawling) the danger was purely imaginary.

A similar problem was faced much more recently when the sudden development of trawling as a herring fishery in the North Sea roused an outcry among the old drift net fishermen that the trawler took immature fish. A widespread research was undertaken ; naturalists and assistants sailed on commercial vessels to measure and make an age-analysis of the catch. It was found that, after all, the fish caught by the trawler, though small, was not immature. Once again a danger of panic legislation was averted.

A NEW DRIFT BOTTLE.

The scientific work which forms the necessary basis of these apparently simple results is elaborate and difficult. As Mr. Maurice says, studying life at the bottom of the sea is a very different matter from studying scientific landsman's problems. Long researches have gone to establish our present knowledge of the age-analysis of fish—the patient marking of hundreds of fish and the collection of the data so acquired. Elaborate instruments have been evolved by which it is possible to make a minute examination of the ocean bed at any given point and to investigate the elaborate chain of life of the sea from the large food fish at the bottom to the microcosms on the surface ; and thus it is possible to discover the state of the food supply of fish at different times and places and even to prognosticate when and where the fishermen will have good and bad seasons.

As an example of the ingenuity demanded, Mr. Maurice spoke of a new kind of drift-bottle invented by a British scientist which, by showing the exact path of the currents, throws some light on the migration of fish. It really consists of two bottles, one of which sinks after a given time owing to the action of an acid on the cork. The other floats on. The floating bottle is picked up, say, on the coast of Norway. That gives the general trend of the drift. When a number of the other bottles, each having been timed for a different period, has been picked up by trawlers from the bottom of the seas, it is possible to map out the path by which the more persistent bottles have made their way to Norway.

A Disease of Ragi.

The *Madras Agricultural Digest* (No. 80) says :—

In the month of June 1928 specimens of ragi plants which showed symptoms of a fungal attack were received from the Anakapalle Agricultural Station. The basal part of the plant (the first two or three internodes) was discoloured and brown. On splitting the culm or on stripping the lower leaves, thick wefts of

hypae could be seen traversing the length of the stem and on the inner side of the leaf sheaths. A few sclerotia were seen attached to the strands of mycelium. The roots were slightly discoloured. The disease appears to start at or near the surface of the soil causing decay of the stem and for a little distance above and below.

The fungus known as *Sclerotium Rolfsii* was isolated from the diseased plants. This fungus has been known to attack a number of other economic plants including wheat, but this is the first time it has been isolated from ragi. Pure cultures of the fungus were obtained and when inoculated on healthy plants produced typical symptoms of the disease as seen in the fields. The collar region becomes discoloured, the discolouration extending to the first three basal nodes of the stem. White strands of the mycelium gradually spread along the stem causing decay of the portions invaded. The attack is first external, but in course of time the mycelium invades the interior, passing through the leaf sheaths. Seedlings die within a fortnight but older plants are able to live for nearly a month after infection, though they completely lose their vigour in the meantime. From the inoculated plants, *Sclerotium Rolfsii* was again isolated, proving beyond doubt its pathogenicity in regard to ragi.

The disease was noted in the transplanted Punasa (early sown) ragi crop at the Anakapalle Agricultural Station. Since the disease was confined to small patches and the percentage of attack was low (0.2 to 0.3 per cent) the damage was not great. There is, however, a possible danger should the disease spread and assume unmanageable proportions if soil conditions are favourable for the fungus to develop.

It is difficult to control a parasite of this nature and as yet no remedial measures have been tried. Burning the plants *in situ* seems to be indicated as the only possible remedial measure at present.

The Corporative System in Italy.

The new corporative Italian Parliament was opened on 20th April 1929. An extract from the Speech from the Throne, dealing with the welfare of the workers under the corporative system, is given below :—

The structure of modern society is such that it is obviously no longer possible for the State to stand aloof from the activities connected with the social life of the country. Consequently the power of the State must be strengthened and its action intensified. It is for the new legislature to pay particular attention to these two aims.

The systematic methods employed by the Government have resulted in the establishment of order where disorder reigned. This has been possible because the reasons which made State action uncertain and confused have disappeared.

As a result of these methods the new constitutional system of the Fascist State has been introduced without any serious trouble. The new system is a purely Italian conception and, although differing from those in force in other countries, does not in any way indicate a return to earlier forms of government now obsolete and totally unsuited to the spirit and requirements of modern times.

In the new State, the legitimate interests and needs of the working population are guaranteed full protection and representation. In the organized nation each person has his own work, responsibilities, duties and rights.

By the loyal co-operation of all classes with the corporate organizations and in virtue of the perfect and conscious discipline of the Italian people, the constant growth of production is ensured and all voluntary dispersion of wealth eliminated.

Only thus is it possible to increase and further the well-being of the Italian people and to allow it to play an ever greater part in the life of the State.

With regard to social welfare, the speech stated that the Italian institutions for the protection of the working classes were the most advanced of their kind. The work of improving them would, however, be continued, although the results achieved had made the social policy of Italy undeniably superior to that of any other country.*

In the course of a speech made on 10th March 1929 to the fifth Fascist Anniversary Assembly, which was attended by deputies nominated by the Fascist Grand Council and representatives from all the State departments, trade union organizations and associations affiliated to the Fascist Party, Mr. Mussolini gave a description of the corporative system.

The speaker declared that the labouring classes were embodied in the institutions of the system, the whole nation being united through the trade union and corporative organizations. The system, which was based on the legal recognition of the trade unions, collective agreements, the prohibition of strikes and lock-outs, and the *Labour Charter—a fundamental* document the importance of which for labour jurisdiction would easily be understood—had already been shown to be a living force. Labour and capital had ceased to consider their conflicting aims as an ineluctable inheritance from the past ; the inevitable divergencies of opinion were finding a peaceful solution as a result of enlightened class co-operation, and hundreds of national agreements covering millions of workers had been concluded. The social legislation of Fascism was the most advanced in the world, extending as it did from the statutory eight-hour day to compulsory insurance against tuberculosis. The employing classes also held advanced ideas, and employers throughout Italy *had rid themselves of all idea of class warfare.* On the other hand, the discipline of the toiling masses was perfect and the spirit of patriotism and co-operation which imbued the Italian industrial classes did them great honour.

This vast Italian experiment, which might succinctly be described as the legal organization of the whole productive energy of the country, was being studied and accepted as an example in several countries which were feeling the effects of the waste and disputes resulting from class warfare. In spite of the conclusions arrived at by a number of superficial observers, the system had nothing in common with State socialism, or, for that matter, with any other form of socialism, for the Fascist system respected private ownership and insisted on its being respected, recognized private enterprise and rejected those experiments in socialization which, elsewhere, were nearing their final collapse. Nor did they foster a spirit of liberalism indifferent to the task of combining interests the conflict of which, unless avoided, might well imperil the welfare and even the very life of nations.

Mr. Bottai, Under-Secretary of State to the *Ministry of Corporations, in a recent speech at* the opening of the Corporative Culture Group

* *Italian Press*, 21st April 1929.

at Lucca, dealt with the question of trade unionism in the corporative State.

Mr. Bottai declared that the assertion that the trade unions would disappear during the transition to the corporative system was ill-founded and tendencious. Equally false was the interpretation placed upon the motives of the new system adopted for the organizations which formerly belonged to the recently dissolved Workers' Confederation. The intention of the Government was to render the working of the corporative system as smooth and efficient as possible. The change thus made was intended to infuse new life into the workers' organizations, as their former organization was too vast and complicated for free and flexible action; nor did it allow the leaders of the workers' associations to obtain the training necessary to offset the long perfected organization of the employers, who brought the benefit of full experience to bear when defending their interests during the discussion of the terms of collective agreements. Nowadays all that had been changed and even the smallest workers federations were able to set up their own technical and economic offices to collect the knowledge necessary for trade union and corporative action.*

Workmen's Compensation Act.

Details are available of the guiding factors behind the proposed revision of the Workmen's Compensation Act, regarding which the Government of India have addressed several queries to the Provincial Governments inviting their opinions. It is expected that Sir B. N. Mitra will be able to pilot a Bill in the Simla Session revising the present Act in the light of the experience gained of its operation.

The present Act was admittedly an experimental measure and many of its features owe their origin to the desire to minimize the difficulties attendant on the introduction of an entirely new measure of this kind than to any belief in their permanent value. The present Act aimed at the inclusion of persons employed in the branches of industry which were both organized and hazardous and in extending the Act to fresh classes the Government of India have endeavoured to follow this principle, says the Secretary of the Industries Department, in a circular letter to the Provincial Governments. "It is difficult, however, to justify the exclusion of other classes of workmen on the grounds of logic alone and the mere fact that an occupation cannot be described as hazardous is hardly sufficient justification for denying compensation to those who suffer from rare accidents which occur and the fact that an industry is not organized in no way minimizes the hardship which the accidents involve on workmen or their dependents."

Compulsory Insurance.

The Government of India are of the view that no great difficulty could be created by the inclusion within the Act of workmen engaged in branches of industry which are not particularly hazardous and which are organized (*e.g.*, to workmen employed on plantations). At the same time unless some scheme of compulsory insurance can be introduced it would be unwise to contemplate any large extension of the scope of the Act. The Government are provisionally of the view that an endeavour to introduce any scheme of compulsory insurance, at any rate in the unorganized industries, would be attended by serious administrative difficulties.

The Government letter next deals with the scales of compensation, and after setting out the main principles embodied in the existing Act, the Government refer to the recommendation on a minimum scale of compensation laid down by the Seventh International Labour Conference. They observe: "The adoption of this would involve the enhancement of one-third in the rate of payment for temporary incapacity and would probably involve substantial enhancements of the amounts payable on account of death or permanent incapacity. The Government are provisionally inclined to the view that in respect of the more poorly paid workmen in particular an enhancement would be justified and that whether the scales for workmen generally are modified or not the minimum scales of compensation, which result from the application of schedule 4 of the Act might suitably be raised."

Definition of Dependents.

The letter alludes to the definition of dependents, and here observes that the Commissioner has now complete discretion regarding the distribution of the amount and in exercising that discretion he is naturally guided by the extent to which the various claimants were dependent on the deceased. But as the Act at present stands he may be compelled to grant the whole of the compensation to other relatives who were dependent, but who do not come within the definition of a dependent.

The Government have received suggestions that the list of dependents should be enlarged but they are provisionally of the opinion that this would be an unwise step so long as the present principles are maintained. It would seem that if any amendment is required it should be of a radical character. Thus, for example, it would be possible to enlarge considerably the list of relatives entitled to claim, and to insist at the same time on some proof of the dependence. It would also be possible to provide that the amount of compensation payable should vary with the number of dependents, and with the extent to which they were actually dependent on the deceased. Provisions of this nature would be more logical than those contained in the Act.

Liability of Contractors.

Regarding the liability of the contractors, which was a point raised during the debate in the Assembly a few days ago the Government observe that the most obvious amendment would be one permitting the liability to be passed on in every case to the person directly employing the workman and such amendment would be in accord with the general principle of the existing section. But it is questionable that if this principle is entirely suited to Indian conditions in a number of instances, and especially in the working of miners the law definitely holds a particular party responsible for the safety of the men and it is questionable if they should be at liberty to pass on the liability for compensation (to the contractor or the sub-contractor) merely because he has not engaged the workmen directly. A possible alternative would be so to amend the Section so as to provide that in any case where the contractor or sub-contractor is ordered to pay compensation he shall be entitled to be indemnified by the principle. There would, of course, be nothing to prevent a principal from entering into a specific contract with a contractor or sub-contractor, providing for his indemnification independently of the Act against the claims for compensation.

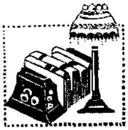
Procedure in Fatal Accidents.

For the procedure in fatal accidents the Government devote considerable space in the letter, and the Government are of the view that Section 22 should be

**Informazioni Corporative*, 10-25 March 1929.

amended in such a manner as to enable a dependent who claims compensation to approach the Commissioner for a settlement of his claim without first applying to the employer. This change would not affect the right of the employer to a notice of the accident. Section 22 effectively prevents the Commissioner from initiating the proceedings on his own motion.

The Government consider that the migratory character and general illiteracy of the workers in India and the absence of well-organized Trade Unions furnish grounds for taking special measures for securing to the dependents of a deceased workman the compensation which is due to them under the Act.



Books in Brief.

Short Reviews of Recent Books.

An Elementary Treatise on Indian Money Banking and Finance.

PART I.

By Tarapada Dasgupta, M.A. Price Rs. 2-8-0. Published by Bengal Publishing Co., 26, Goabagan Lane, Calcutta.

As an introductory volume, it is well worth study. The chapters are 9 in number and bear the titles :—

Foreign Trade.
Gold and Silver.
Money.
Prices.
Foreign Exchange.
Our Currency System.
Our Currency System (*contd.*).
Paper Currency and Reserves.
A Gold Standard for India.

Some of the vexed questions may have been more adequately discussed or the *pros* and *cons* suggested. For instance the theory 'India is a Sink for World's Precious Metals' is accepted without reserve. Again the question of Stability of Foreign Exchange *vs. Stability of Internal Prices requires a more careful* handling and the fact of Government success or failure in the one or the other has not been hinted. The work, however, has had to be written in a briefer compass and the issues raised have been avoided because *of a more controversial character. As an ele-*mentary treatise, it is certainly of great value and the chapters on money, prices and currency are well written. It is hoped that the II Part will soon follow.

A.S.V.

Whither India.

By Dhirendranath Sen, M.A., Commercial Editor *Forward*. Published by Bengal Publishing Co., 26, Goabagan Lane, Calcutta. Price Re. 1 only.

In this short but critical, scholarly and suggestive brochure, Mr. Sen acclaims the Nehru Report as an authoritative enunciation of the principles and a practical scheme of Government, and pays a tribute to the keen insight and broad-minded statesmanship *brought to bear on it by the authors. At the same* time he lays his unerring fingers on the drawbacks, not serious, of course, of the scheme. While it must be admitted by all that the greatest contributions of the Nehru Committee are, according to Dr. Sen, their acceptance of Dominion Status as *our immediate ob*jective and their unanimous adoption of joint electorate in the face of intensely communal bickerings, we have still to be alive to the disquieting features of the Report. First, the inconceivability of discriminatory legislation against any business community is inadmissible since, to use Mr. Sen's words, India cannot mortgage her economic and industrial future in a spirit of petti fogging and clumsy bargaining.

Secondly, the Parliamentary Government recommended by the Nehru Report, cannot be blindly accepted since there is a danger to democratic development by the Executive arrogating to itself powers in the dissolution of Parliament, as it does to-day in England.

Thirdly, we are yet to be convinced of the usefulness of an institution like the second chamber or a bi-cameral legislature. In the fashion of Abbe Saiyes, Mr. Sen says, "A more powerful Upper House is inimical to the realization of popular rights, an ornamental body like the Brother House of Lords is thoroughly useless."

Fourthly, it is good to notice the treaties with the Indian States are to be respected but the position of subjects has not been, presumably for want of space, fully dealt with.

Fifthly, the idea of a Declaration of Rights is very nice but the example of the Irish Free State should be preferred to that of the Dominions.

Sixthly, on the question of financial adjustment, the Report has no definite views or lacks any definite scheme.

Besides pointing our attention to the defects, Mr. Sen is emphatic enough in his pronouncements. Sir Malcolm Hailey's dictum that Dominion Status connotes more attributes than Responsible Government, is examined only to be rejected, as it is in accordance with neither honest nor intelligent politics. So also his plea, "Full Dominion Status means a Dominion Army under full control of the Dominion Government and I have not yet seen any serious thinker who has pretended that India is yet in a position or will, in the immediate future, be in a position to create a Dominion Army in the proper sense of the word." Not only is it that the Dominions have had no army at first or any obligations of military and naval defence till late in their history but that India without enjoying a Dominion Status, has had an army and has borne an enormous load of military expenditure. The cry against India on the subjects of defence, therefore, is a hoax.

Mr. Sen's brochure, on the whole, is a stimulating study and is a highly valuable document on the subject of Nehru's Report and India's Constitution.

A.S.V.

Indian Economics in a Nutshell.

Edited by Tarapada Dasgupta, M.A., and H. K. Sen, M.A., Second Edition, 1929. Bengal Publishing *Co., 26, Goabagan Lane, Calcutta.*

The very fact that this book has run into a second edition shows the extent of its popularity. The redeeming features of the book are the treatment of currency and banking questions at greater length than of others and the very useful appendices at the end. Considering the brief compass, it is really surprising that the authors have successfully and suggestively dealt with the essential aspects of Indian economics and the more important current economic problems. In due time, it is hoped, the book will run into as many, if not more, editions as Mr. Kale's books. The Bengal Publishing Co. is doing very useful work.

A.S.V.

Khadi Guide.

Published by the All-India Spinners' Association, Ahmedabad, 1929. pp. 100. Price not stated.

This is essentially a propaganda book in favour of Khadi and against foreign mill cloth. Also it succinctly states the *'case for Khadi' in view of Indian* conditions particularly. The composition and constitution of the All-India Spinners' Association is given its due share of prominence as the official propagandist centre for the whole of India. The progress of Khadi (consumption and manufacture) is clearly shown with statistical aid, province by province. Altogether this book which is well illustrated with maps and portraits gives the correct position of Khadi in India and the headway it has made so far.

Catalogue of Sanskrit and Prakrit MSS. in Central Provinces and Berar.

By Rai Bahadur Hiralal, B.A., Retired Deputy Commissioner, Central Provinces. Government Press, Nagpur. Price Rs. 3.

The Government of the Central Provinces and Berar deserve to be congratulated on their selection *of Rai Bahadur Hiralal for preparing and issuing* a Catalogue of Sanskrit and Prakrit manuscripts found within their territorial jurisdiction. Mr. Hiralal is well known as an antiquarian scholar and his present work will undoubtedly add to his reputation in the fields of literature and history. The Central Provinces having been long neglected in regard to the work of search for MSS., the Simla Conference of Orientalists, held in 1912, led to work being undertaken in it. This work was entrusted to Mr. Hiralal who has unearthed 5,600 manuscripts in Central Provinces proper and 2,500 in Berar. The search, however, has not been a complete one owing to lack of funds. The finds, such as they are, are worthy of attention especially in this State. The most important collection of 1,200 manuscripts belongs to the Jain temple at Kasanja in the Akola District. This temple belongs to the Digambara section to which the Jains of Mysore belong and among its MS. collections are palm-leaf books in Kannada. Mr. Hiralal states that as no Kanarese scholar was available to examine them in any detail they have had to be left alone. Perhaps it might be possible to get these examined with the aid of a scholar from Mysore at no distant date. An examination of these manuscripts might throw light on the exact relationship that the Digambara Jains of Central Provinces bear to their brethren in this State. The names of their Ganas and Sanghas are identical and the discovery of Kannada manuscripts would seem to suggest a possible migration of Mysore Jains to the Central Provinces at some undetermined date. In a learned introduction, Mr. Hiralal discusses the contents of the Sanskrit and Prakrit manuscripts found in this temple and we would commend it to students of Indian history and literature. Mr. Hiralal suggests that a Karanja Sanskrit manuscript named *Upaskachara* whose date he works out to 6th June 1359 A.D., is, among dated records which stand verification, "the oldest in India so far known". Among the works unearthed by Mr. Hiralal is Somadeva's *Nitivakyamrita*, which is described as a sort of work second only to the lately discovered *Arthasastra* of Chanakya, whom Somadeva very much imitates both in matter as well as in style. From one of his other works, he appears to have flourished in or about 959 A.D., in the reign of Krishnaraja III, the Rashtrakuta King. This seems to be a work well worth attention at the hands of students of the Science of Politics. Special mention deserves to be made of mediæval Prakrit (usually called *Apabhramsa*) works found at Karanja. One of these is Pushpadanta's *Uttara-purana* in which there is mention of the success of the Rashtrakuta King Krishna III over the Cholas and of the death of the Chola King (whom we know to be Rajaditya from other sources) at Takkolam. Altogether Mr. Hiralal's *Catalogue* ought to prove extremely valuable to those interested in the ancient literature and history of this country.

The League of Nations.

By Prof. D. G. E. Hall, M.A., I.E.S., University of Rangoon, and Prof. J. M. Sen, M.Ed., B.Sc., F.R.G.S., Hare College, Calcutta. Published by Macmillan & Co., Ltd., London. Price Rs. 1-12-0, pp. 176. 7"×5". 1926.

A lucid essay within a brief compass on the objects of the League of Nations is achieved in a laudable manner in this book. Why was the League founded? What are its achievements and limitations? As answers to these pertinent questions this book furnishes a reply by two educationists who see in the League a great potentiality for good in effecting harmony in a war-weary world. A just consideration of the work of the League must include its aid in the financial reconstruction of Austria, Hungary and other States which were rescued from chaos; its efficient health organization, its rally in the relief of refugees, its splendid international labour organization and lastly, its arbitration of disputes between States which otherwise would have disturbed world tranquillity in no uncertain measure. In spite of these solid achievements, the League has been and is the target of adverse criticism. Its mandate system is interpreted as furthering the imperialism of the five great powers who are permanent members of the League Council. Also it is not generally known that the League can wage war under certain conditions against an 'offending Nation'! Woe betide the world in such a juncture.

U. S. A. after initiating the League is still far away from being a member. She has refused to be cajoled into that august assembly. The American always retorts that he would not dip his fingers in a mess pot that is purely an European affair. Since the publication of this volume, Russia and Germany have joined the League and the members outside it are dwindling in numbers. The position of India as one of the original members of the League is decried by some as a mock-show. They declare that it is a farce, India being a dependent country and its delegation is always led by an English statesman. But these are thorny political problems.

The authors of this publication, Messrs. Hall and Sen, have prepared between themselves a clear book that would go handy to many who desire to know a little, not too little of the League of Nations, Geneva.

G.V.R.

The Mysore Economic Journal

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of all Economic Topics of Interest

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Strikes and How to Avoid Them.

By The Editor.

Recently one of the Judges of the High Court of Judicature at Calcutta is reported to have asked "*what is there illegal in a strike?*" What answer the Counsel to whom the question was addressed gave *is not recorded, but there* can be little doubt that it was in consonance with the law bearing on the subject. "The right to strike" exists, is legally recognized and is daily practised in almost every part of the civilized world for obtaining higher wages, or for securing some other demand. In its essence it is a combined withdrawal from work of a body of workers for the purpose of enforcing their *demand on their employers. It is a mighty* weapon in the hands of the workers and its use has not infrequently been attended with results not wholly commensurate with the good of those resorting to it. Various remedies have been suggested to prevent or avoid strikes but a careful consideration of these shows that not many of them go to the root of the matter. While some of them are individually good—for instance, co-partnership in industry—it has been found in actual working that they have proved wholly ineffective. The approach to the problem has, therefore, to be radically altered.

The fundamental fact in regard to strikes is that they indicate a stage in the development of the mass mind which requires careful analysis. The subject accordingly is one which primarily falls in the domain of what might be called "industrial psychology". The question then reduces itself to this: how to establish an *identity of feeling between employers and* employees in an organization intended for the public benefit? This might be done in a variety of ways and the primary object of this article is to indicate the main lines on which this identity of interests can be secured. The employees might be induced to take a sustained interest in the employers' business by the offer of stock. Several companies have tried this with success in France and also in England and the United States of America. In one big *concern in Canada nearly 75 per cent of the* employees are shareholders and it has been remarked that its prosperity has been phenomenal. Employees ought to be offered concessions in price and given adequate time to pay their share amounts. In the company referred to above, many years were allowed to the employees concerned for paying for their shares. Employees might also be encouraged *to sell company's stock or its manufactures.* These methods have been tried in certain concerns and they have proved eminently successful. They have proved mutually advantageous. A more useful mode of creating confidence in the workers is to call for suggestions from them by offering cash prizes for those found to be useful to the company. The awards might be made by judges specially chosen from among the establishment. The most worthy suggestions might be publicly made known, if they can be so published without detriment to the business of the company. Housing and welfare work should occupy a more prominent place in the employers' programme of work for the benefit of workers. Education in this country being still abnormally low, the responsibility on the employers' part is great. Better housing, better sanitary surroundings, better food, better clothing and *better social amenities would mean something* more than a mere return to the capital invested in the business. It would argue a lively interest of the employer as a human being in the employee as a human being and this contact—as human beings—is one not to be neglected by the intelligent employer. What the Factory

Act requires him to do by compulsion, he ought to be able to provide of his own free will. Employees should be encouraged to consider the business of the employer as their own and should be induced to take up safety work themselves. Intelligent superintendents should encourage the men to meet weekly to help in the administering of relief to those suffering from shock or other accidents sustained while on duty. Such work—and combination in working—is sure to produce its own beneficial results. It might end, indeed, in reducing accidents to a negligible figure. In the larger establishments—say in the textile industries—it might be possible to run workers' magazines on the scale of the familiar House Magazines. These might chronicle all employee activities and might be even subsidized by the employers. The idea of compulsion being injurious, the whole of the work should be left to the employees themselves. Such a policy is likely to develop in the workers a spirit of initiative, which, in the long run, would prove more beneficial to them than strict guidance could ever do.

Many more suggestions of the above kind might be easily added, but the above ought to suffice. They might be thus generalized:—

Humanize your viewpoint; treat labour as "human beings" and not as "mere machinery": avoid compulsion; encourage initiative; promote social life and a sense of solidarity among the workers; help employees to realize themselves and to feel that they have merit in themselves and that their opinions and suggestions are worth consideration and even adoption; give up the idea that employees can give you something for nothing; make the employees believe in your undertaking by offering a legitimate share in it and in its recurring profits; beyond all, believe in the co-operation of labour and capital if you desire to avoid conflict and loss.

Industrial development on a vast scale is going on in this country and unless from now at least the mode of approach towards the workers is changed, it is likely to be adversely affected to an extent that is likely to defy the most optimistic imagination. Organizers of industries should give as much attention to the problem of labour as they give to the problem of capital. Until they do this as a matter of principle and policy, they are not likely to banish strikes and all the loss, misery and disorganization they mean both to themselves and to the community in general.

Half-Penny-a-Mile Flying.

By Harry Harper,

Author of "Twenty-Five Years of Flying".

June, 1929.—One of the most interesting features of the great international exhibition of aeroplanes which is to be held at Olympia, London, from July 16th to 27th, will be the staging of a number of tiny winged machines of a new type which experts are now referring to as the "motor-cycles of the air". The evolution of such miniature, popular-type flying craft, intended solely for private aerial owner-drivers, is the outstanding feature of the moment in aero-nautical design. Their ingenuity is truly remarkable. People who examine them at the impending show will realize, more than they have ever done before, that the world really does stand, now, at the dawn of that long-promised era of "flying for all".

One of the most striking facts about some of the little single-seater aerial runabouts now being completed is their economy in operation. Those who still believe that flying is a costly affair, will be astonished, no doubt, to hear that it is now possible for anyone to move through the air at more than 80 miles an hour at a petrol cost of only one half-penny a mile. Such is the result that can now be attained with certain diminutive "pocket-planes" built just to carry owner-pilot and his luggage on an aerial pleasure tour.

Suit-Case and Golf Clubs.

One typical little craft of this fascinating type is a monoplane with a tiny, completely enclosed cabin beneath its wing. The owner-airman steps into this through a side door, as he might into a coupe car. There is no need for him to wear special flying kit. In front, above and on either side, he has outlook windows of ample size. Just behind him there is a locker for his suit-case and golf clubs. In the bow of the machine is an aero-engine of simple design, capable of developing 40 horse-power. But any such power as this is only required when the flying motor-cycle is in the act of ascending, or when it is speeding through the

air at its maximum of 105 miles an hour. For cruising steadily at 85 miles an hour it requires only a little over 20 h. p., and under such conditions its petrol consumption works out at *actually a fraction less than ½d. a mile.* Even when a fair allowance is made for other operating expenses, apart from fuel, it is reckoned that any private owner-pilot, making an aerial tour in one of these motor-cycles with wings, *should be able to do so at a total cost of not* more than about 1½*d*. a mile.

Present-Day Prices.

No wonder that flying-club members, after securing their official certificates of proficiency as pilots, are now placing orders with alacrity for these baby cars of the air. At the moment, *it must be admitted, the prices charged for* them are fairly high, but this is merely a passing phase, due to the fact that the output is still relatively small. Quantity-producing methods such as will mean reduced costs, are only possible *at present on a very limited scale.* As soon as full advantage can be taken of the demand which is beginning, prices should tend to fall to a market degree. As I have explained before, the chief expense the constructor has *to face, when producing a little aircraft for* popular use, is that of the engine. It has to be a first class job, built by highly-skilled labour from the finest material available. And this, of course, precludes any very low price for the *finished article.* But at the same time, there is the definitely hopeful fact that, if only a sufficiently large number of engines can be put in hand in one batch, the cost per motor can be reduced considerably. This was proved, recently, when *as many as* 200 light-plane engines of a certain type were produced in one order by standardized methods. The economies in manufacture thus secured were reflected in the price reductions found possible with the *finished machines.* Even so, however, one has to be prepared, to-day, to pay from £350 to £400 for a well-equipped single-seater light-plane, and from £620 to £650 for a more powerful 2-seater. But at the big Olympia show it is expected that some important announcements may be made as to forthcoming price reductions for low-powered light aeroplanes.

A World-wide Market.

The time is certainly ripe for a bold policy in this respect. Quite a number of new aircraft firms are being formed in this country to build touring and pleasure-type aircraft, while the reports which one continues to receive show that existing firms are extremely busy. The well-known De Havilland Company, for example, who produce "Moth" light aeroplanes, have now increased their output of these machines to as many as 24 a week, and even at this rate their output is booked up for months ahead, a large number of machines going to purchasers overseas. One fresh concern operating at the London air-station, the Desoutter Aircraft Company, after producing an interesting light-plane of a new type, had *their output booked up promptly for some time* ahead, while Lt.-Col. G. L. P. Henderson, who recently designed, built and flew himself an ingenious little single-seater light-plane, received immediately a number of orders for it *all over the country. The demand for private aircraft of all types is, in fact, increasing to a* remarkable degree. It is a world-wide market, too. In the United States last year the aircraft industry produced 4,346 commercial *aeroplanes, and this year, already, it is clear* that all previous American records will be broken.

In Britain at the present time our aeroplane-building firms have orders in hand from more than 20 foreign countries, and some of these orders are really big ones. A similarly encouraging position has been reached by British firms who are producing aero-engines of moderate horse-power designed specially for installing in aircraft of a commercial type. Not only is each of the existing factories extremely busy but it has been decided just recently to open up several new firms for the manufacture of light-plane engines of improved and simplified types. *Our air-craft trade is, in fact,* "booming," and at the Olympia show an opportunity is to be taken by the industry as a whole, acting through its accredited organizations, for drawing up a widespread scheme for bringing the excellence of British flying machines and motors before the attention of the world. Such concerted action is now greatly to be desired, as we have to face the keenest competition, in overseas markets, from the vigorous and splendidly organized air industries of the United States, Germany and France.

An Arbor Day, on which there will be planting of trees by Boy Scouts and Girl Guides, was the suggestion made by Mr. John Michie, M.V.O., former president of the Aberdeen branch of the Royal Scottish Arboricultural Society, at an annual meeting held in Aberdeen. Professor A. W. Borthwick, of the Chair of Forestry, Aberdeen University, strongly advocated the establishment of such a day, when the co-operation of Boy Scouts should be secured in much needed re-afforestation.

Education in Bombay.

By "Scrutator".

The Quinquennial Report on Public Instruction in the Bombay Presidency for the years 1922 1927 which has just been published contains much information regarding the progress of education during those years. The most notable event of the quinquennium was the passing in 1923 of the Primary Education Act whereby the control of Primary Education was transferred from the Department to the Local Authorities. A detailed account of this Act was given in the Quinquennial Report for 1917-18 to 1921 22. Most of the Boards have prepared schemes for the expansion of education, some of them on a compulsory basis, and many Boards have levied additional taxation but the finances of Government have not permitted them to perform to the full the part contemplated by the Act. The fact, however, must not be lost sight of, that during the quinquennium the assignments of Government to Primary Education rose from Rs. 97,38,154 to Rs. 1,21,59,839, the greater part of which was swallowed up by the increase in the pay of Primary teachers. "It is early to pronounce on the results of the transfer of control of the District Local Board Schools," says the Director of Public Instruction, "the control now exercised by the Boards is very great greater, it is believed, than in any other Province in India, and, except for financial purposes, the supervision of the Department has been reduced to a minimum." The chief result of the Reforms is the emphasis they have given to differences of religion and caste, owing to the system of special representation which they have set up, and nowhere have the evils of communalism been more conspicuous than in the administration of the Primary Schools by the Local Authorities.

The quinquennium has been noticeable for the greater recognition given to the educational needs of the backward classes especially in Primary Education and a very liberal system of scholarships in Secondary Schools and Colleges for these classes has been introduced.

Lack of funds has not cramped the activities of Government in the field of Primary Education only. Economy has been the dominating note of the educational policy throughout the quinquennium. So far from it being possible to provide the funds required for the expansion of Secondary and Higher Education, it has been necessary to exercise retrenchment, and that too in directions in which it could not be applied without educational loss. As one instance only, the Director of Public Instruction mentions the discontinuation of the scheme of Medical Inspection after it had been in existence for a year. Among the chief purposes for which additional funds are required, perhaps the most important is that for additional provision for Technical and Industrial Education, including the expansion of the College of Engineering and the establishment of a Technological institution of an advanced nature. In spite, however, of the inability of Government to provide all the funds that are required, advance has been made, if additional expenditure and increased numbers can be held to be regarded as evidence of advance, and it is a noticeable fact that the expenditure from local sources increased from Rs. 125 lakhs to over Rs. 183 lakhs or about 47 per cent.

The total number of institutions increased during the quinquennium by 1,378 to 16,211. Recognized institutions increased by 1,542 to 14,784, while unrecognized institutions decreased by 164 to 1,427. Of the recognized institutions, 15 are Arts and 10 Professional Colleges, 529 Secondary schools, 13,835 Primary schools and 395 special schools. The 13,835 Primary schools were distributed among 10,244 out of 26,731 inhabited towns and villages, the number of towns and villages with Primary schools showing an increase of 557 during the quinquennium. As compared with the preceding year, the total number of institutions showed an increase of 479,413 recognized and 66 unrecognized.

The total number of pupils of all kinds receiving instruction was 1,148,714, an increase of 194,261 over the figure for 1921-22 and of 74,614 over that for 1925-26. Of these, 925,855 were boys and 222,859 girls. Of the total number under instruction 4,819 were Europeans, 32,488 Indian Christians, 881,752 Hindus (including Aboriginals and Depressed Classes), 207,974 Muhammadans, 17,721 Parsis and 3,960 others. The number of pupils under instruction in recognized institutions increased by 221,155 to 1,114,093 while those in unrecognized institutions decreased by 26,894 to 34,621. The decrease in the number of unrecognized institutions and in the pupils in them is chiefly due to the disappearance of the so-called National Schools in the Northern Division and

partly to increased recognition on the part of the people of the greater efficiency of the education imparted in recognized schools.

The total expenditure on public instruction rose during the quinquennium by over Rs. 87 lakhs to over Rs. 381 lakhs, *i.e.*, by 29.5 per cent. The expenditure from Provincial funds increased by Rs. 28,73,872 to Rs. 1,98,00,281 or by 17.1 per cent. Of the total expenditure, 51.9 per cent was met from Provincial Revenues, 18.7 per cent from Board Funds, 17.4 per cent from fees and 12.0 per cent from other sources. The total expenditure on education from Provincial funds represented 11.9 per cent of the total expenditure of Government in all departments. Of the total expenditure from Provincial Revenues at the end of the quinquennium 6.3 per cent was spent on University Education, 11.3 per cent on Secondary, 60.8 per cent on Primary, 6.3 per cent on Special, 3.7 per cent on buildings, 4.2 per cent on miscellaneous and 7.4 per cent on Direction, Inspection, etc.

Bombay ranks first among the Provinces in respect of the percentage of pupils attending schools to the total population. It is 5.38 per cent in Bombay, 5.36 per cent in Madras, 4.7 per cent in Bengal, 2.7 per cent in United Provinces, 4.7 per cent in the Punjab, 3.2 per cent in Burma, 3.1 per cent in Bihar and Orissa, 2.7 per cent in Central Provinces and Berar, 3.4 per cent in Assam and 2.6 per cent in North-West Frontier Province.

UNIVERSITY EDUCATION.

Speaking of University education the Report observes that the University, while continuing to perform its duty as an examining and directing body, has been endeavouring to obtain a more complete control over post-graduate teaching work in the Colleges. It has been grappling since 1924 with the task of reorganizing post-graduate teaching and research. Under the old scheme of 1913 post-graduate teaching was entirely in the hands of the Colleges, and the University was unable, as originally contemplated, to influence it directly. In order to bring the University into closer touch with the post-graduate work in Colleges and to make the University the initiating and directing body, the scheme of post-graduate studies was revised in 1924-25. Under the revised scheme the M.A. degree was thrown open to research and the control of post-graduate research training, including the University School of Economics and Sociology, was vested in a Board of Management consisting of nine members appointed by the Syndicate.

The reports received from the Principals of the different Colleges appear to show that discipline as a whole was satisfactory. During the last few years of the previous quinquennium the interest of the students was largely centred in political matters. Since then the violence of political agitation has greatly lessened and it is reported that the students have now settled down to the more sober conditions of the pre non-co-operation times.

SECONDARY EDUCATION.

It is the declared policy of Government to maintain one full High School in each district to serve as a model. Of the 27 districts in the Presidency, 23 have a High School, while the Dharwar district has two High Schools. There is no Government High School in the Bombay Suburban, Kolaba, Ahmednagar, or Upper Sind Frontier Districts.

The number of Secondary Schools of all kinds for boys and girls increased by 92 or 21.1 per cent to 529, and the number of pupils in them by 24,008 or 31.5 per cent to 100,296. The percentage of pupils in Secondary Schools to total population is 0.5. The total expenditure on all Secondary Schools except European Schools increased by Rs. 18,33,511 or 39.2 per cent to Rs. 65,15,143. The percentage of expenditure on Secondary education to total expenditure on Public Instruction is 17.7 per cent. Government funds provided Rs. 19,06,922 or 29.3 per cent of the total expenditure.

The practice of teaching English in the three highest standards (V–VII) of Primary Schools is growing, there being now 44 such classes with 1,655 pupils. Most of these are attached to District Local Board Schools. On the one hand, the increase in Secondary education means a continual lowering of the standard, since the new recruits represent, generally speaking, lower intellectual strata, especially as it is from the rural areas that the increase principally comes. On the other hand the continual demand for Secondary education involves the best brains being diverted from agriculture to those occupations which are generally known as 'Service' and the country side is thus being gradually drained of its best material. How far there is a real demand for English-knowing young men, is not easy to determine. Whatever the demand, however, the supply keeps increasing, fed by the general desire, common to most countries, to better oneself in the social scale and to secure a certain income for life, with perhaps the chance of a pension.

It is commonly urged, says the Report, that

the solution of the question is to provide more industrial and technical education. There is, however, the danger of turning out a number of young men with a technical knowledge of industries which cannot provide posts for them. As it is, more than one of those who have been given Technical Scholarships for study in Europe are now employed in occupations different from those for which they have been trained. It seems unreasonable to suppose that a supply of men trained for a particular industry will create a demand for that industry; it would appear that the industries must come first—or at all events the two movements must be parallel. For the majority of those who aspire to Secondary and Higher education as the means of escaping from manual labour, against which there exists a peculiar prejudice in this country, it would appear that the true solution lies in that from which they are trying to escape—manual labour itself.

The Report points out the wide disparity between the average pay of a teacher in a Government and non-Government school. While the average monthly pay of the Head Master of a Government High School in the Presidency (excluding Bombay) is Rs. 486, and that of an assistant master Rs. 128, the averages for such teachers in non-Government schools are Rs. 259 and Rs. 63 respectively. The inadequacy of the pay given to the teachers is largely responsible for the unsatisfactory character of the work in most of the schools. Other factors also, however, contribute to this result, and the Director of Public Instruction quotes the following remarks from the Educational Inspector, Southern Division :—

"In the case of Municipal schools, generally speaking, the problem is different. There is not so much lack of funds as a lack of administrative efficiency, due chiefly to the spirit of faction and intrigue that unfortunately so often prevails in Municipal bodies. The result is that the Municipalities find it difficult to secure a suitable class of men as teachers in the first instance, and still more difficult to retain them in their service for any length of time. Consequently the staff is far too migratory. This has often been pointed out to the Municipalities."

Direct moral instruction has been discontinued in Government High Schools. Moral principles are, however, impressed on the minds of the pupils in the course of ordinary class lessons.

In all Government schools and in an increasing number of non-Government schools open-air physical drill and games form part of the daily time-table. In the Elphinstone High School the experiment of devoting the last period to out-door exercise was tried for standards I—IV and the Principal reports that the class-work of these standards did not suffer and that the health of the boys considerably improved.

PRIMARY EDUCATION.

The number of Primary schools rose from 12,408 to 13,835 at the end of 1926-27, and the number of pupils rose from 790,433 to 984,726, an increase of 24.6 per cent. The greatest increase occurred in the Central Division, in which Division, especially in the Satara District, there has been a keen demand for the extension of Primary Education. A very large proportion of this increase occurred in the last year of the quinquennium and was the outcome of special schemes sanctioned by Government. There was one Boys' Primary school for every 824 of the male population.

The Primary Education Act of 1923 was in operation during the last two years only of the quinquennium and by the end of 1926-27 all the District Local Boards in the Presidency, with the exception of four in the Northern Division and one in Sind, had taken over the control of Primary schools. Only those Municipalities 51 in number which have been declared Local Authorities by Government manage their own schools. The schools of all other Municipalities are managed by the District Local Board of the District in which they are situated, each Municipality making special contributions towards the funds of the District Local Board.

The total expenditure on all Primary schools rose by Rs. 50,94,417, or about 35 per cent, to Rs. 1,98,57,428. The contribution from Government funds rose from Rs. 97,38,154 to Rs. 1,21,59,848, *i.e.*, by 24.9 per cent.

The total number of teachers (both men and women) in Primary schools under all managements increased by 5,736 or 19.9 per cent to 34,611. The total percentage of trained teachers is 60.2.

It is commonly complained that the teaching in rural schools is not adapted to the needs of the rural population. There is no doubt much in this complaint, but so far as the lower Primary course (up to standard IV) is concerned it does not appear that there is much scope for any alteration in the curriculum. As already stated, the main object in the first five years is to make a child literate, and with this end in view the schools have to concentrate on the 3 R's. It is frequently urged that agriculture

should be taught in these standards. But, apart from the cost involved, and apart from the difficulty of giving any useful instruction in agriculture in school to boys below the age of 14, it must be clear that, if they are to become literate before they leave school, they must devote the whole of their attention to the three R's. It is for this reason that Government have definitely declared themselves to be opposed to the giving of pre-vocational instruction before the IV standard is passed.

What matters is not so much the curriculum as the way it is taught. It is the teacher's outlook that is all important. In order that teachers in village schools shall have an agricultural outlook it is now provided in the general orders for recruitment that special consideration shall be given to members of the backward communities, and during the last few years the number of teachers recruited from these classes has greatly increased.

The Report contains some remarks on the changes brought about by the Primary Education Act of 1923. The Act provides specially for the representation of backward communities on the School Board. The result, in the Deccan, Konkan and Karnatak, has been that in many cases these communities have been over-represented, and the whole power of the School Board has fallen into the hands of one particular caste, and a caste hostile to the advanced classes from which most of the inspecting officers and school-masters have been recruited in the past. The first effect was that the Boards generally refused to take over, as Administrative Officers, the Deputy Educational Inspectors who had formerly been responsible for the management of the schools, not so much because they were Government servants as because of their caste. In some cases an incompetent Administrative Officer or Supervisor has been appointed whose chief qualification for the post was his caste.

"The next step," remarks the Director of Public Instruction, "was to make matters less pleasant for the teachers belonging to the advanced communities who by reason of their seniority and efficiency held a number of the better paid posts of headmaster or were in receipt of allowances for doing postal work. The result in some districts has been an unprecedented number of transfers. To use a homely phrase, the 'bottom dog' is now on top, and success has gone to his head." At present there is much confusion and inefficiency and communal jealousies might, without exaggeration, be described as the curse of Primary education. These criticisms do not apply to all districts. Whether the School Boards will in time realize that the interests of the schools and the pupils must come first remains to be seen.

Another point to which reference may be made is the tendency to extravagance on the part of some School Boards, especially in regard to the pay and allowances of teachers. The evidence given during the sittings of the Compulsory Education Committee in 1922-23 led one to suppose that the popular impression was that primary teachers were overpaid rather than underpaid, and that the District Local Boards would favour a reduction of expenditure on this account. With some exceptions, the result has been otherwise. This is largely due to the fact that the primary teachers, who are now well organized, have realized their political power.

It is unfortunate that the passing of the Primary Education Act coincided with the beginning of a period of financial depression in Bombay. It is becoming more and more difficult for Government to provide the funds for the development of Primary Education even to the extent of the grants required towards the scheme prepared by the Local Authorities. At the start these schemes of the District Local Boards were mainly for expansion on a voluntary basis, a not unnatural method of procedure in the present state of public opinion. Government have now decided that at least one-third of the expenditure on any scheme of expansion submitted by a District Local Board must be devoted to a scheme of compulsion. In the case of Municipalities no scheme of expansion on a voluntary basis will be considered.

EDUCATION OF GIRLS.

The total number of institutions for girls (Europeans and Indians) increased during the quinquennium from 1,709 to 1,761. The girls under instruction increased from 186,453 to 222,859 or by 19.5 per cent. Of these, 147,257 were in girls' schools and 75,602 in boys' schools.

It is not possible to make any accurate estimate of the full amount spent on the education of girls because 33.9 per cent of them are in boys' schools. The expenditure on institutions specially intended for girls has risen from Rs. 38,84,625 to Rs. 53,24,746, *i.e.*, by 27.1 per cent. The amount so spent constitutes 16.0 per cent of the total direct expenditure on education.

There is no recognized College specially reserved for women. But there were 449 women studying in Colleges for men against

258 in the preceding quinquennium. Of these 382 were in Arts Colleges and 67 in Professional Colleges.

The number of Primary schools for girls rose from 1,438 to 1,535, and the number of pupils in them from 104,721 to 133,243. Excluding the number of boys in girls' schools, and including the number of girls in boys' schools, the total number of girls comes to 198,604 against 160,449 in 1921-22, or an increase of 23.8 per cent.

The number of Secondary schools for girls is 87 with 13,531 girls. Of the latter, 2,481 were Europeans, 3,637 Indian Christians, 3,473 Advanced Hindus, 290 Intermediate and Backward Hindus, 232 Muhammadans, 2,962 Parsis and 456 others.

Agriculture in the United States of America—II.

By Vishnu V. Oak (U.S.A.)

Agriculture is the basic industry of any nation, as the productive material derived from land is necessary to commerce and manufacturing. The development of Agriculture has confronted the nation with many problems which led to the establishment of the United *States Department of Agriculture*. The history of this powerful organization started in 1836, when the Commissioner of Patents made a voluntary distribution of seeds to some farmers. Three years later an act of Congress by an appropriation enabled this department to distribute free seeds to the farmers prosecuting agricultural investigation and procuring agricultural statistics.

The duties of the Department were to diffuse information concerning farm management and activities amongst the farmers in a comprehensive way, and to distribute new and valuable patents and seeds among the people. With such an organization they could deal with almost any problem that confronted the farmer. Congress was liberal with its appropriations. Each year the amounts were increased, and new Departments were added. In 1925 the Department spent over Rs. 20,00,00,000 and employed 20,000 men and women. It consisted of more than a dozen offices and bureaus, managed and equipped not only for promoting the science of Agriculture, but for helping the farmer in a practical way. Some of the offices and bureaus are: The Bureau of Animal Industry, Weather Bureau, Bureau of Soils, Bureau of Public Roads, Bureau of Agricultural Economics, and the *Office of Information* which sends out every year to farmers in all parts of the country millions upon millions of pamphlets and bulletins containing information pertaining to every branch of Agriculture. Thus in these and other ways the Department of Agriculture touches agriculture at almost every point and assists the farmer in almost every situation.

There has recently been established an important branch in the Department of Agriculture—the Office of Experiment Stations. This department exercises supervision over the operations of the State agricultural experiment stations under Federal appropriations authorized by the Hatch Adams and Purnell acts for research, and affords such advice and assistance as will best promote the efficiency of these activities. It also collects and circulates information regarding similar institutions throughout the world. The experiment stations of the Department of Agriculture in Alaska, Hawaii, Porto Rico, Guam and Virgin Islands are also conducted under the general direction of this office.

This office carried out during the past years investigations of the needs and privileges of farmers in all parts of the United States, and in Alaska, Hawaii, Porto Rico, Guam and the Virgin Islands.

The Extension Service co-operates with the State Agricultural Colleges in the conduct of extension work in Agriculture and home economics under the Smith-Lever Act and acts as an agency for co-ordinating the extension activities of the several bureaus of the department with similar work carried on by the State Agricultural Colleges. It conducts demonstrations on reclamation projects to assist settlers in making a success of their farm enterprises. It has charge of the preparation, installation and displays of agricultural exhibits at State, Interstate and International fairs and of the motion picture activities of the department.

In order that the farmer too might keep pace with this scientific age, courses have been offered in many State and other Colleges to teach agriculture in a scientific manner.

The typical school or College of Agriculture offers to graduates of accredited high schools, or equivalent secondary schools, a four-year course in Agriculture leading to the degree of

Bachelor of Science in Agriculture. Some offer post-graduate work leading to the degree of Master of Science or Doctor of Philosophy.

While many Universities undertake to give instruction in medicine, law, architecture and the other professions, Agriculture and Engineering are practically the only ones which find places in most of the State Universities and land grant Colleges. In the Morrill or Land Grant Act of 1862 the United States Congress made grants of public lands to the States based on their respective representation in Congress, the proceeds from the sale of which to constitute a perpetual fund. This was to be devoted "To the endowment, support and maintenance of at least one college where the leading object shall be to learn the scientific side of agriculture as well as other branches of learning."

The Federal Farm Loan System of 1916, the Agricultural Credit Act of 1923 and the War Finance Corporation authorized in March 1919 suspended in 1920 but renewed in 1923 and 1924, has been of great aid to the development of the Agricultural Industry.

To give the reader an idea of the nature of work done in agricultural colleges, I am giving below an extract from the prospectus of the College of Agriculture of the University of California :—

"The University of California is prepared to accept students who are eligible to enter a course leading to the B.S. degree in agriculture at Berkeley or at the Branch of the College of Agriculture at Davis. At Berkeley are located lecture rooms and laboratories of the following divisions of the College of Agriculture: Agronomy, Entomology and Parasitology, Agricultural Economics, Forestry, Fruit Products, Genetics, Landscape Design and Floriculture, Plant Nutrition, Pomology, Plant Pathology, Soil Technology, Subtropical Horticulture, Veterinary Science and Viticulture. Many of these divisions have additional and equal facilities at the Branch of the College of Agriculture, Davis.

"Courses in other departments and colleges of the University are open to properly prepared students in the College of Agriculture. Several hundred different courses of instruction are offered. At Berkeley may be found all the facilities afforded by a great university. The library is complete in literature dealing with rural and agricultural education. Splendid opportunities are available for students in agricultural economics because of the large population in the vicinity of San Francisco Bay and the necessarily large amounts of food transported from the great agricultural sections near by and also because of the extensive foreign commerce. In Berkeley and vicinity are located many establishments dealing in the products of agriculture—canning and preserving factories, slaughter-houses, dairy manufacturing plants, etc. Near the campus are several thousand acres of interesting plantations of both hardwoods and conifers, while virgin redwood and pine forests are within easy reach. The University has available for instruction and experiment-station work 18.06 acres of land, located at the corner of Sacramento and Rose streets in Berkeley. This area, along with several blocks of land adjacent to Hearst Avenue, gives the College of Agriculture land for instruction under field conditions.

"Davis is sixty miles north-east of Berkeley and twelve miles west of Sacramento in the Sacramento Valley. The Branch of the College of Agriculture at Davis is well equipped with numerous buildings which include laboratories, three large greenhouses, shops, barns, student orchards, student vineyards, an irrigation laboratory, herds and flocks of the leading breeds of cattle, sheep, hogs and poultry. These afford students ample opportunity to gain practical as well as technical training in the various phases of agriculture. Adjacent live-stock farms, vineyards, orchards and diversified farms offer splendid opportunity for study, demonstration and judging.

"The following divisions have fields and laboratories at the University Farm: Agricultural Engineering, Agronomy, Animal Husbandry, Botany, Chemistry, Dairy Industry, Entomology and Parasitology, Irrigation Practice, Plant Pathology, Pomology, Poultry Husbandry, Soil Technology, Truck Crops, Viticulture and Veterinary Science. Other divisions in the College of Agriculture offering work at Davis are English, Plant Nutrition, Agricultural Economics, Geology, Hygiene, Mathematics and Surveying, Military Science, Physical Education and Zoology.

"The Graduate School of Tropical Agriculture and Citrus Experiment Station is located at Riverside, in the southern part of California. This is in the centre of the citrus region, and being about midway of the State east and west is convenient to all of the various sub-tropical and tropical industries. A tract of 477 acres is devoted to the interests of this Graduate School and Citrus Experiment Station. Ample laboratory facilities are available. No formal courses aside from seminars are offered at Riverside. All graduate work is of a research and seminar nature. Graduate students who contemplate pursuing work at Riverside must

secure all formal and allied courses at Berkeley or in some other institution with equal facilities.

"The recently established Giannini Foundation for Agricultural Economics is being organized on the basis of a private endowment presented to the Regents of the University of California, in February, 1928. The foundation will supplement and complement the work of the College of Agriculture in research and extension in the general field of agricultural economics. The foundation has been placed on an unusually broad basis and its operation should prove to be of very great value to California agriculture."

GOVERNMENT AND AGRICULTURAL PESTS.

One of the problems that has given the Department of Agriculture considerable concern is the exclusion of foreign pests that are injurious to agriculture. To accomplish this end twenty foreign quarantines and several regulatory orders are now in force, restricting, controlling and safeguarding by inspection and, where necessary, by disinfection of plant and plant products at ports of entry. Plant quarantine inspectors are stationed at all of the important ports of entry throughout the year. In this way a number of major pests have been intercepted in plant products arriving in commercial shipments, ships stores, and passengers' baggage and in foreign parcel post. Likewise, all railway cars returning from Mexico have been inspected for cotton seed which may be the means of introducing the pink bollworm into the non-infested sections of this country. As an additional precaution, all freight which are likely to carry any kind of farm pests, are fumigated in Federal car fumigating houses.

Plant pests are a serious obstacle to profitable agriculture. Many insects and plant diseases entered the United States early in its history and have become established throughout the country. Others have come during the last generation and the spread of those having a local distribution is in a number of cases being distinctly retarded or completely stopped by quarantine measures administered by the Department of Agriculture. Some of the outstanding farm products which have to contend with pests and diseases are corn, flowers, nursery stock, tropical fruits, deciduous fruits and forest trees.

GOVERNMENT AND FARM CREDIT.

Early attempts were made to organize credit among farmers. In 1732, farmers in Connecticut organized a co-operative credit society for trade and commerce. This attempt, however, did not prove successful, partly owing to lack of interest among the farmers themselves and partly because of the imperfections of the earlier state systems. The efforts, however, were not fruitless and have been kept alive. Out of this movement has come the establishment of Land Banks authorized by the Farm Loan Act of 1916. These banks are designated as Federal Land Banks and Joint Stock Land Banks. These two kinds of banks constitute the lending agencies of the Federal Farm Loan System. They can only make first mortgage loans to farmers on farm lands or on equipped farms. The Federal Land Banks are capitalized by the Government. They are twelve in number, operate in their own districts defined by the Farm Loan Board, include all the states, and can make loans ranging from a minimum of Rs. 300 to a maximum of Rs. 30,000. This class of land banks can make loans to individual farmers through agents. Most of the loans are made, however, through National Farm Loan Associations (about 5,000 in number) composed of not less than ten members. These associations of farmers are co-operative in character and are authorized to establish a co-operative system of mortgage credit for farms in the United States. Joint Stock Land Banks are organized and operated by private capitalists. They can make loans to individual farmers. From 1916 to 1927 the Federal Land Banks loaned Rs. 5,00,00,00,000 and the Joint Stock Land Banks Rs. 2,37,00,00,000 to farmers.

Fundamentally, the subject of rural credits has much to do with the economic and social progress as it concerns the land, the man and the people. Efforts that have been put forth to help the farmer improve the fertility of the land and make his lot easier by increasing his income and the quality of his products all offer a solution for the great social and economic problem of the farmer.

FARM POPULATION.

Within the last seven years there has been a rapid decline in farm population. An estimate made in 1927 put the total at approximately 28,000,000 whereas in 1920 the total was something like 31,000,000. This loss is believed to be the result of unfortunate agricultural conditions caused by the post-war depression but this is not true. Probably the depression of the last few years has accelerated the loss of rural population. However, this loss is largely due to natural conditions and do not necessarily indicate that agriculture is in a declining state. Such a loss is compatible with the progress and prosperity of this industry. If one would

gather facts as far as back 1910 they will see that there was the first noticeable break in the growth of farm population in the United States and in some states it could be noticed as far back as 1880. Frequently, conditions that temporarily make agriculture unprofitable inevitably cause an excessive withdrawal from it of capital and of men. The mechanization of agricultural processes releases from the farm a considerable amount of labour than is required in factories to produce the necessary agricultural equipment. If this is taken into consideration it means that agriculture is not declining from an economic standpoint. Among farmers now there is a general stride toward better living conditions and on a large percentage of the farms one finds the homes equipped with gas, electricity, labour-saving devices, plumbing, radios, telephones, motor cars and trucks. In 1920 there were about 2,000,000 cars on farms, 140,000 motor trucks and 250,000 tractors in use. Good roads, consolidated schools and churches, newspapers and magazines, circulating libraries are all working to make farm life more attractive and pleasant. In 1923-25 farm crops were worth over thirty billion dollars. It is an undeniable fact that agriculture during 1927 made substantial progress. Since 1923 the agricultural industry has averaged a larger volume of production even with a decline in rural population. This can possibly be attributed to the fact that costs of production have been reduced despite continued high overhead and labour expense due probably to the use of large power machinery in agriculture.

Agriculture and the Tariff.

Along with the increased production of the farmer one must take into consideration the tariff. It is believed that in time the tariff will be of more importance and more value to the farmer than to any other industry in the United States due to the fact that each day the farmer finds that his particular industry is more dependent on foreign markets. Then too, a good tariff that will be beneficial to the farmer must assure him of the home market. Many branches of agriculture secure benefits from the tariff but with more trustworthy statistics it will probably be possible to devise means to increase this benefit so that agriculture will enjoy the same protection against foreign markets that is enjoyed by other industries.

A Students' Strike Enquiry Report.

By A. S. Venkataraman, B.A., L.T.

The Report of the Mysore Students' Strike Enquiry Committee was published in March 1929, the Committee having been appointed in August 1928. The recommendations do not deviate from the accepted and well-established principles in operation in well-organized institutions and so are not likely to provoke controversy. The theory is propounded that strikes are inappropriate to student life. It is, however, not borne out by experience or facts of everyday life. However this may be, with regard to the analysis of causes, some things are worthy of note and require comment. Almost the first cause is, "the flattering appeals made to youths by political and social workers". The other causes are absence of good home-influence and the defects of our educational system, *viz.*, lack of co-operation between the home and the school, undue stress on the intellectual side to the exclusion of physical, moral and social sides of education, absence of personality among teachers, lack of intimate contact between the teachers and the taught due to the frequent transfer of teachers, the unwieldy size of classes or the taking of other occupations by teachers owing to inadequacy of pay. While the enumeration of causes is doubtless satisfactory, the elucidation of some of them might have been more searching, critical and exhaustive. In a sense, schools and colleges as at present constituted, function in a curious manner and help to create an artificial, unnatural uniformity in a world of diverse people and varied tastes. The more one thinks of it, the ruder is the shock and the blame must be laid at the door of the external public examination as a test. The day-to-day work of the pupil, his habits, progress, his honest and steady endeavour cannot be measured by a snapshot test of an hour or two. The social, moral, æsthetic and physical aspects! Why are they ignored? Because they *cannot* be measured by the yardstick of an examination test. The absence of personality is certainly one but only one of the causes. A neatly dressed small tall gentleman enjoys a position of vantage but the appearance and dress of the teacher do not make for his personality—though they will be adventitious aids—unless his qualities of head and heart

command the pupils' regard. Again owing to economic stress, teachers are tempted to take up other occupations and naturally too. Fancy the state of things in which a manual labourer is better paid, better cared for, better respected and more independent than an intellectual "cooly" (if this expression be permitted) ill-paid and ill-respected but charged with the serious responsibility of the care of youths, and in very many respects worse off than a mere clerk, who hopes to see better days—service, promotion, pension, influence and regard! Any modern Government must take the view that a discontented teacher is a danger to society and the sooner the cause of discontent is removed, the better it is. The pity of it is that a teacher enjoys the peculiar position of his work not being susceptible of measurement and evaluation and therefore of proper judgment and so is not encouraged. In some institutions, the performance or worth of the teacher is assessed by the number of passes, and reason and logic will tell us that no more unsound and demoralizing test can be thought of. It would seem, therefore, that unless the rigour of the examination is very much lessened and unless the teacher is better paid and respected, there is salvation, neither for the taught nor for the teacher.

With most of the measures proposed to prevent strikes, we are in perfect agreement. Cordial contact between teacher and pupil has to be established. Hostel life is certainly to be favoured. Teachers with the quality of humanity in them have to be selected. One word of caution is necessary. There are teachers who use their profession as a stepping stone to more ambitious spheres in life and who follow the motto "The end justifies the means". The sooner they are found out and weeded out, the better for society, present and future. An excellent feature of the proposals is the recommendation that pupils should enjoy freedom to discuss social and political subjects. Only then will the students feel that they are also citizens in the making now, and will take interest in their school life and activities. Though their political ideas and views are to be kept in cold storage, their expression in societies is not only harmless but also salutary, since letting off steam is now and then necessary. The employment of women teachers ought to be commended as it is hoped that children feel more at home with them and that women possess imaginative sympathy in a greater measure. The Report closes with a description of measures to deal with strikes as they occur. While the school authorities have a wide range of penalties at their disposal, they should be responsive to public opinion, as much as they would expect the public and the Press to co-operate with them in their efforts to maintain discipline. Under normal conditions, extraneous aids to police are not only ill-advised and out of place but also may create a situation where there ought to be none. Sympathy, kindness and tact are the gateways to discipline and whenever they are absent, indiscipline is found to reign supreme. In the main, the Report is closely reasoned out and logical and is in every way commendable as supplying valuable information on "strikes".

Virtues of Arbitration.

The *Monthly Record* of the Manchester Chamber of Commerce publishes an interesting article by Mr. E. Raymond Street, Secretary of the Chamber, on the subject of international arbitration. As is well known, the Manchester Chamber has always given the work of commercial arbitration a high place among its activities. By maintaining its own Tribunal and by having active representatives on Empire and International Arbitration Committees it has done much to help commercial arbitration to progress in recent years. Mr. Streat's article was, however, prompted by the success which has recently attended the submission to international arbitration of certain disputes in which Manchester firms were interested. He gives some details of these cases and adds: "Enough has been said to show that arbitration is no idle catchword, but is a definite factor in modern business. At home and internationally people need to learn that the only thing to do with differences and disputes is to bring in some impartial person to settle the rights or wrongs of the matter once and for all. We have too much emphasis on discord and too little on harmony in many walks of life to-day. Much talking and much writing about your differences with your fellow-man hardens your heart and his. It makes eventual settlement more difficult to achieve and kills the possibility of a return to good-will and friendliness. If business-men could teach our politicians, our statesmen, our Labour leaders, and the world at large something of this doctrine and spread the spirit of arbitration to these other fields, they would serve interests even greater than they knew."

Circumstances Affecting Quality of Milk.

By Christopher Hay, M.A.

An interesting leaflet has been issued by the British Ministry of Agriculture and Fisheries (Leaflet No. 85) on circumstances affecting the quality of milk which, in my opinion, deserves wide circulation in this country. The whole matter is put so well that it is hard to improve upon the text, while any attempt at summarizing is likely to spoil its educative value. I therefore set down the main suggestions offered in it in the language of the leaflet, which is simple and non-technical in character.

Development in Dairy Farming.

The marked development of dairy farming in recent years has given rise to an increasing interest in modern methods of milk production. That interest has not been confined to producers and consumers; the distributors, both wholesale and retail, are giving more attention to the chemical as well as the bacteriological composition of milk. There have been several cases of buyers of milk offering a special bonus for high fat and low bacterial content. The time may be approaching when the buying and selling of milk as between the producer and the distributor will be conducted mainly on a quality basis.

During recent years much progress has been made in the improvement of milk supplies with respect to bacterial content. For that purpose schemes of lectures, demonstrations and technical advice are provided and are in operation, and there are many producers who are in a position to benefit by a bonus for bacteriological quality. In respect of chemical quality (*i.e.*, the proportion of fat and of solids-not-fat), however, there is room for producers to exercise a consideration which is not always given.

In many respects the dairy farmer is helpless in the matter of the chemical quality of the milk yielded by his herd; the percentages of both fat and solids-not-fat are apt to fluctuate without any obvious reason. Repeated experiments have shown that if a cow is well nourished no alteration or improvement in feeding will permanently alter the quality of her milk. The known factors, however, some of which are controllable, and all of which are associated with variations in the quality of milk secreted, should be carefully considered by all milk producers if they wish to help both the community and themselves.

The following factors have been found to be associated with variations in the quality of milk.

Breed and Strain.

There is a marked difference between British dairy breeds in regard to the quality of the milk they yield: the Channel Island breeds produce by far the richest milk. Again, there are individual differences within a breed: it is not infrequently found that certain cows in a herd give, on the average, milk of high chemical quality, whereas others in the same herd may be, continuously, low-quality yielders.

It is by no means certain that the breed or cow which produces the largest yield secrets milk of inferior quality, although it is more or less true that the highest yielding breeds do not as a rule produce the highest quality milk.

In the first place, considering these known facts, the herd owner who desires to make the best of his business will be well advised to keep careful yield and quality records of the milk produced by individual members of his herd, so that he may be guided in the selection of the cows from which to breed. Much can be done in this way to grade up a herd. The ability to produce rich or poor milk seems to be hereditary, and this hereditary trait appears to apply equally to both parents; therefore, every care should be exercised in the selection of the sire. Secondly, if it is desired to persist with a herd of a particular breed on the ground of quantity production, and it becomes the aim of the owner to raise the quality immediately, then it is usually advisable to include a percentage of animals of a "high quality" breed, such as the Guernsey or Jersey.

Intervals between Milkings.

Uneven intervals between milkings are perhaps the commonest cause of wide variations in quality. The butter fat may easily vary to the extent of 2 or 2.5 per cent, and, in the case of high yielding herds, the solids-not-fat may also be affected, though not to the same extent. Uneven intervals are often due to labour conditions, transport and train services; but the farmer should aim at a night interval of not more than 13 hours, and the heavy yielding cows should be milked last in the evening and first in the morning.

The Efficiency of the Milker.

Insufficient milking can, and often does, affect the quality of the milk. The operation should

be carried out quickly, quietly and thoroughly, and in all cases the cow should be treated with every consideration. Particular care should be taken to ensure thorough stripping, as the fat content of the last milk so obtained is often as high as 7 or 8 per cent. Moreover, rough stripping will result in loss of butter fat and injury to the udder muscles.

PROPER BULKING OF MILK.

Owing to the variation in chemical quality of milk from individual cows, it is necessary to ensure that the milk is bulked in churns or other vessels in such a way as to represent the average quality of the herd. Where high quality cows are included in the herd, they should be housed in such a way that an even distribution of their milk throughout the bulk will be certain. This precaution is particularly important where milk is bottled on the farm: neglect of it has led to wide variation of fat content in the highest grades of milk.

HEALTH.

Contentment, which is fostered by comfortable housing, ample light and ventilation, tends to increase the general quality of milk produced. It is important to ensure that full advantage is taken of these conditions. In the case of individual cows, quality is often affected by temporary indisposition, recent calving, chill of the udder, abnormal conditions and any unusual excitement. Stockmen should, therefore, pay attention to the general condition of individual cows, and during any abnormal period the milk should either be tested, or withheld temporarily from the bulk.

FOOD.

Although indisputable evidence is incomplete, it is generally held that, provided a herd is receiving a properly balanced ration, and the cows are fed according to milk yield, food has little permanent influence on the chemical quality of the milk. There are many herds in existence, however, where the rations are unbalanced, containing too great a bulk, too much starchy matter or oil, and an insufficient albuminoid and mineral content; in such cases improved feeding might raise the general quality, particularly in the case of a solids-not-fat deficiency.

The solids-not-fat content is sometimes adversely affected when the herd is turned out to spring grass. The reason has not yet been sufficiently studied to enable any definite recommendation to be made; but it is worth while to try the judicious use of suitable concentrates, preferably those low in albuminoid content. Similar care is needed towards the end of the grazing season.

PERIOD OF LACTATION AND AGE OF COW.

It is found that there is frequently a slight depreciation of the chemical quality of the milk yielded where lactation is extended to a period beyond the normal (9-11 months) and in abnormal old age. These factors are unlikely to influence the quality of milk from the whole herd, unless the average age of the cows is unduly high and calving down is practised only at a certain period of the year. In such cases the remedy is simple and obvious.

It is improbable that all the above factors will be found in any one herd, but in cases where the chemical quality is somewhat low, some of these factors will probably be present.

SUMMARY.

It is improbable that all the above factors will be found in any one herd, but in cases where the chemical quality is somewhat low, some of these factors will probably be present. In order to determine the exact cause, definite information and investigation are essential.

The first necessity, therefore, is the taking and keeping of accurate records of yield, fat content and solids-not-fat content, both for the herd as a whole and for individual cows; only by these means can reliable information be obtained. Should the producer experience difficulty in keeping such records, and also in estimating the efficiency of his system of rationing, it is advisable that he should approach the County Agricultural Organizer, who is available to give expert advice and to assist in improving the general standard of milk production on any farm in this county.

"Book-Day" is an innovation in Germany which was celebrated this year for the first time on Goethe's birthday, March 22. It is to be an annual event. The underlying idea is to make people read more books, even if they do not buy more books—that is to say, the cultural institutes are throwing themselves as heartily into it as the publishers. Germans, particularly of the younger generation, do not read as much as they did. Schools, the broadcasting stations, the churches of all denominations, the cinemas, and clubs of all descriptions are agreed that "books are a nation's most sacred possession". Reading, it is considered, must be popularized again, and the best way to do so is this form of public propaganda, conducted under the auspices of the Minister of the Interior.

How to Train Your Mind.

By Emma Gary Wallace.

There are a great many people who are unsuccessful in life because they have spent too much time in wool-gathering. As small children, they did not acquire the habit if starting and finishing small tasks with brisk intelligence. Naturally they did not acquire the training for larger and more important undertakings.

In school, these wool-gatherers spent much time day-dreaming, often taking two hours to a lesson and not making a good job of it at that, when half an hour of the right kind of concentration and effort would have mastered the assignment thoroughly.

There are a great many wool-gatherers among grown-ups. We meet them on every hand. Some of them will read the newspaper, or a book or magazine article, and just a few hours later are incapable of giving a clear idea of the outstanding points. The very title of the article or book, and the writer, will be gone. The plea is frequently made with complacent apology, "You know I have such a poor memory! I simply cannot remember."

Cause for Wonder.

Yet these same people are very likely in the next breath, to regale us with the most vivid account of happenings which took place years before. They can give details and repeat conversations in an astonishing way. It makes us wonder why nearer experiences like the reading are vague and hazy, and far-away pictures exceedingly clear-cut.

Sometimes we are associated with people of culture and intelligence who plainly have difficulty in carrying on an interesting conversation. They resort to common places and to the recital of trivial incidents. Perhaps they piece out with the telling of a few stock anecdotes which we have heard them relate before.

The trouble is that to a great extent these people are wool-gatherers. They have never trained themselves to clear thinking and clear speaking. In their lives and reading, they have not had a definite idea of what they were after and how to get it, and so much of their effort has been of a random character, and there has been loss of time and efficient thinking.

Not long since, a man whose name stands very high in the annals of achievement, remarked that "The man who attracts attention is not the dazzler, but the man who is thinking all the time and expressing himself in little, unusual ways." The man who expresses himself in unusual ways is never an echo. He is a thinker on his own account, and if his thinking is backed up with the right kind of self-confidence—not self-assurance, he will be an individual possessing initiative and courage to persist. He will not be a wool-gatherer.

Memory Training.

It is true that some people are endowed by nature with better memories than others, but anyone who wishes may improve his memory to make it serve him well. *Memory depends in large measure upon the vividness of the first impression.* That is the reason that our friend could tell us all about the escapade at the Old Swimming Hole, or the Little Red School House thirty or forty years ago. The impression of every circumstance connected with that affair was sharp and unblurred.

But the same person who read an article yesterday or the day before, or who listened to a lecture or a sermon with a wandering mind, did not get a sharp or clear impression of the main ideas presented, and so naturally, the picture is too hazy to recall except in a very general and unsatisfactory manner.

To have a memory which is reliable and not given to mind wandering, means that we must train ourselves definitely in the exercise of the mind. It means that we must realize first of all the importance of exerting our Will Power along helpful directions, and that we must learn to hold ourselves to the concentration necessary to do thoroughly whatever engages our attention at the time.

We must acquire the habit of concentration and of shutting out distractions, and we must plan to prevent interruptions as far as is humanly possible. Many times we can so organize our schedule as to give ourselves a much better chance for uninterrupted work. This means conditions which favour concentration and sustained effort.

A prominent banker who has made an extraordinary rise from a humble position as clerk in a railroad office to the head of one of the country's largest banking organizations, declares that he attributes his advancement to the habit of holding himself first to facing every problem promptly, and then to thinking all the way around it until he is familiar with all of the aspects of the case. Then he is prepared to make an intelligent decision as to what is best to do.

The sign of executive efficiency, to-day, is often quoted as a flat-topped desk which is absolutely clear for the day's work. A desk which is cluttered with papers and memoranda and correspondence and printed material and a miscellaneous assortment of clips and rubber bands and ink bottles and pens and pencils, usually reflects a confusion of mind and a lack of mastery of details which is almost pathetic. *It tells of efficiency which has never reached its maximum.*

SELF-CONFIDENCE.

When we stop wool-gathering and are able to use our powers of observation and imagination and concentration and organization and memory, we will have developed a strength and assurance in handling all our affairs which will establish self-confidence.

Self-confidence is necessary if we are to forge ahead in the world, for we must know how much we can depend upon ourselves to do to put across what we have in mind. Otherwise, we may over-reach ourselves.

The men who play a notably fine game of golf, are the ones who can gauge their shots to a nicety. To over-reach themselves is as fatal as to under-reach. The man who has quiet self-confidence because he knows what his own powers are, does not hesitate to start responsible undertakings. *He knows what he can do* and he goes ahead and does it.

Self-assurance is a different matter. It is an unwarranted belief in our own powers. It is the conviction that we can do something as well or better than someone else when we have not prepared ourselves for such supremacy.

The first three steps in self-development are:

First: Stop wool-gathering and learn to concentrate.

Second: Learn to recognize the main issue and don't lose sight of it.

Third: Make your Will Power serve you especially in the direction of strongly sustained effort.

Co-operation and Education.*

By K. N. Kini, M.A.,

Head Master, High School, Tumkur, Mysore State.

No branch of human activity is so much *dependent on the education of the masses* as the development of co-operation and no endeavour of ours so much widens the scope of *education as co-operation. It would therefore* be instructive to consider in what manner are the interests of co-operation and education bound up together and how. The two movements mutually help each other for the advancement of both.

DEMOCRATIC MOVEMENT.

The co-operative movement is a highly democratic one because the societies formed in that organization consist of members drawn to it voluntarily for the purpose of transacting business in which all of them are expected to participate on equal terms for the benefit of one another, high or low, rich or poor, claiming this or that religious faith. The capital required for conducting business in a society is collected by shares of low value which may be paid in instalment of paltry sums extending over 20 or 30 months. The poor folk can exercise a little economy in their daily expenditure and lay by a few annas a month for paying up the instalments. The movement, therefore, is as much an education in thrift as in business. It teaches people to combine together in a certain cause and work in confidence of one another. Many a successfully worked society has taught people self-help, mutual trust, art of business methods, of administration and commercial morality. Viewed from a larger standpoint, co-operative movement constitutes education for a fuller life.

NEED FOR LITERACY.

Literacy is essential for every individual who wishes to benefit himself through the agency of co-operation. The co-operators have recognized this basic need and therefore much propaganda is being conducted by them among the masses in favour of education as much of children as of adults. During the course of their lectures, methods of improving social and economic conditions through co-operation are explained and the interest of the people secured in promoting their welfare. The illiterate folk are made to feel that they are the poorer for not taking advantage of the facilities afforded

*An Address delivered on the International Co-operators' Day (5th July 1929) at Tumkur.

to them to seek education. They realize that being illiterates they are incapacitated from taking any prominent share in the work of the societies. A feeling is gradually becoming prevalent in the relatively backward rural parts that people should not neglect the education of their children. The desire has not materialized in many homes: but the trend of events is in the direction of progress. Villages which used to send ten per cent of the children to school a decade back are now sending twenty to thirty per cent. Undoubtedly much leeway has yet to be made in rural education. Seventy to eighty per cent of the rural children of school-going age have to be enrolled in schools. Workers in the field of co-operation have a vast field for their activities and energies. Will they exert?

PROPAGANDA FOR EDUCATION.

Those who have gauged the potentialities of the co-operative movement, especially the governments of the diverse States and Provinces in India, emphasize the need for further developing it so as to make it an effective instrument for securing the social and economic uplift of the middle and the poorer classes. Let us consider how far we can push it on. For purposes of participating in this organization at the present moment, we must consider only the male population and that above the age of 20 years. They form about 16 lakhs in Mysore. But all of them are not literate. About 17 per cent of the males above twenty years of age are literate. If we expect every member to take some intelligent interest in the work, we can connt upon the participation of only the literate ones. Calculation shows that they are nearly two and three-fourths lakhs. Now we have a membership of just one lakh in the existing co-operative societies. Reckoning all the members to be males, which is not very wide of the mark, we can bring a lakh and three-fourths more of the male population in the movement in Mysore. This is the work lying immediately ahead of our co-operators. They must accomplish two things: A wholehearted attempt must be made to see that the poorly educated among them do not lapse into illiteracy for want of facilities and opportunities to read and write. Secondly, they must be persuaded gradually to enter our fold. All this entails propaganda and propaganda means workers. Here is a unique opportunity for official and non-official agencies to co-operate and enlarge the field of co-operation. The duties and responsibilities of membership of a co-operative society are far beyond the comprehension of the ill-educated. By means of co-operative conferences, conducted as much in villages as in towns with the idea of educating the less advanced people in the true principles of co-operation, by instituting reading rooms and libraries under the supervision of the municipalities, village panchayets, and co-operative agencies, on a far vaster scale than now, by conducting lectures through the agency of paid and honorary propagandists and by the house-to-house distribution of vernacular pamphlets and reports on the advantages and achievements of the movement much progress can be effected.

ADULT EDUCATION.

Educational statistics bring us face to face with an appalling state of affairs in our country whenever we think of undertaking any scheme for the economic amelioration of the masses. Even if we should be able to secure the advantages of co-operation to two and three-fourths lakhs of the literate adult male population—a task stupendous in itself—the question remains, how we can attempt to offer the advantages of the movement to the remaining thirteen and a quarter lakhs of thoroughly illiterate people. A well-planned and broad-based system of adult education is an indispensable precedent. But experience shows that there is collossal apathy on the part of our adult population to attend schools established solely for them. There may be a little enthusiasm here and there, but there is now widespread, continuous and earnest interest. Hundreds of night schools had to be closed down during the last few years on account of paucity of scholars. The complaint is heard that even the few existing ones are not made much use of and there may soon be proposals to close a large proportion of them also. The situation is far from satisfactory. I would therefore appeal to all the lovers and patriots of the State that they may form what may be called "Rural Welfare Associations" and carry on an intensive campaign in favour of education of the adults. These associations may be started either by co-operative societies or by co-operative institutes as their side activities. In Bombay a number of adult night schools are managed by the Central Co-operative Institutes. We must undertake a similar activity here. The duty of workers in this movement is not light. Every person who is connected with the movement either officially or in any honorary capacity would do well to co-operate with the educational authorities, ascertain where adult night schools have been established by them, visit them occasionally to ascertain the progress achieved and deliver

lectures to the people of the locality how education will enable them to perceive the depth of their present low economic condition and will by slow degrees enable them to bring about a better order of society in every way.

Women's Education.

Co-operators cannot shut their eyes to a still more difficult question, namely, female education. It is our experience that where the mothers are literate, education of children is cared for much better. Educational statistics prove that communities in which female education has progressed show considerable advancement in the education of males as well. The average standard of life is found to be higher in those communities. In Mysore the Government have generously founded a large number of educational institutions from the primary to the University grades exclusively for women's education, but large masses of the population have not taken advantage of them. Taking female population above the age of 5, only 2.2 per cent are literate. Of the females above the age of 20 years, 1.9 per cent are literate. The evil of illiteracy among women must be combated even more vigorously than that among men. Unless it is eradicated, we cannot advance either socially or economically. Social customs and religious prejudices, apathy and hostile public opinion, especially in the rural parts, stand in the way. Co-operators must carry on immense propaganda mostly in the rural areas and secure large attendance of girls in the schools. Now-a-days women are convening conferences of their own to further their cause. The women of even one of the most orthodox communities, namely, the Nambudri Brahmans of Malabar, recently held a conference and demanded their share in the activities of the nation. The future appears to be hopeful. But workers are needed to consolidate efforts and direct energies into fruitful channels.

Co-operative Education.

Education on co-operative principles is required even for those educated persons who are now working in the co-operative movement. In the West, co-operative colleges have been founded by co-operative unions to impart instruction in this subject and to inspire students for service in the movement and to undertake investigations for the further development of co-operative work with a view to solving many social and economic problems. Co-operative organizations remit to these seats of learning a portion of their profits for their maintenance. In India, we are only on the threshold of the movement. So far as I am aware, no university has endowed even a chair for this subject. Co-operative institutes in various provinces have been publishing journals on co-operation, and offering some instruction not only to prospective workers but also to those who are actually working in the line. In our State, too, the Co-operative Propagandist Institute, through its branch at Mysore, has been conducting training classes and the Registrar has spoken well of their effort. Co-operative education has to advance very much in our country if new lines of work are to be undertaken. With the advancement of general education, this branch is bound to make progress.

Vocational Education on Co-operative Basis.

One more educational activity which properly belongs to the domain of the co-operative movement is the vocational education of the masses on a co-operative basis. It is a new field in India: but it is full of vast potentialities in the vocational regeneration of the country. An experiment may be tried in a pretty large village a few miles from this town, where we can find a large number of boys having finished the primary course have dropped off from school for good. In such a place, an agricultural farm may be opened on a co-operative basis and vocational education in agriculture may be imparted to such boys, with a promise that a portion of the produce will be distributed among them for their labour. A spinning and weaving section may have to be opened to engage them during times when agricultural operations may not be conducted. A dairy farm may also be opened. The entire work of the school including the maintenance of accounts, selling the produce, etc., will have to be performed by the boys under the instructions of teachers specially selected for the purpose. If a few enlightened citizens of Tumkur would undertake to launch the scheme on a very modest scale to start with, they would contribute much towards the advancement of co-operative vocational education. The district board, the co-operative department and the educational authorities may be requested to help in the experiment by offering some grants for the maintenance of teachers at the commencement. As the scheme progresses, it is likely that it may be worked at a profit.

"Some of the best journalism of the day is very much more truly literature than a great deal of what is called literature."—*Mr. Hugh Walpole.*

Co-operation in Mysore.

By G. V. Rajaratnam.

The spread of co-operation in the State of Mysore, though not spectacular, is one of gradual and steady expansion in many of its branches. The latest report for the year 1927-28 is a modest record of increasing usefulness to the more needy classes for whom the Department of Co-operation is certainly intended—especially to alleviate their precarious economic conditions. As in the whole of India, co-operation is almost mainly limited to co-operative credit, which is only one important phase of the movement in general. Nevertheless the following figures are worthy of note as denoting the improved state of co-operative credit in Mysore. During the year under review the number of co-operative societies in the State rose from 1,748 to 1,886, the number of members from 98,933 to 1,07,223 and the working capital from Rs 112 lakhs to Rs. 131 lakhs.

A number of rural credit societies helped ryots in the purchase of improved agricultural implements, seeds and manures as recommended by the Agricultural Department which resulted in the increased sales of these materials. This healthy gesture towards agricultural improvement by co-operative impetus is worthy of wider emulation, knowing as we do, the ryots' indifference to newer things unless goaded to them by attractive means. It is very much to be desired in the interests of agricultural prosperity to see every ryot is relieved of his inadequate implements in favour of recognized implements, seeds, and manures by the help of rural societies who must be made to set apart a portion of their money for this work *alone*. The importance of this step cannot be belittled or overlooked.

"Produce" Loans.

The interesting experiment that is being tried at Ramohalli in Bangalore Taluk to grant "produce" loans to agriculturists through local co-operative societies in order to help them to wait for a better market for their produce is of a far-reaching character. The success of this new venture would result in out-witting that leach among ryots, *i.e.*, the middleman. Generally it is the middleman with a view to profit himself controls artificially the prices to the detriment of the hard-pressed ryots whose labours in effecting a good produce is done only to be baulked by the middleman in the end. It is earnestly to be hoped that success would attend the now tried experiment so that a general appreciation would be rendered possible in the near future.

Co-operation in Malnad.

Malnad with its peculiar position, mountainous ranges, excessive rainfall, sparse and isolated population and paucity of communications, has been the despair of co-operators. As in the plains the co-operative movement has not made any appreciable headway. The potential wealth of Malnad cannot be tapped to the fullest unless the agriculturist is made debt-free. For this we agree with the suggestion made—which is by the way the only solution—in the report to grant long-term loans ranging from 25 to 30 years. The formation of a Land Mortgage Bank under orders of Government would be in the course of time in a fit and effective position to tackle the problem of granting long-term loans to Malnad agriculturists. More than ever the redemption of that hilly tract to its full stature is possible mainly through the blessings conferred by the co-operative movement.

Depressed Classes and Co-operation.

The paramount purpose of co-operation should be to uplift the depressed and backward classes who form the largest and the most hapless section of the population, harried by money-lenders and reduced inert by their illiteracy. The commendable efforts made by the Department in this direction by bringing the light of co-operation into their dismal conditions is indeed a matter deserving no small praise. Correct ideas of the spirit of co-operation among Adikarnatakas, Adidravidas, Lambanies and other classes are disseminated by intensive propaganda. Only 52 societies exclusively for their benefit were set up. Though the number is small and is wholly inade uate to meet such a vast situation, the success of the Gottigere Adikarnataka Co-operative Colony Society shows that under proper guidance, many more societies may be brought into being for successful working for the common good of the above classes referred to. Societies of this nature require very careful supervision and sympathetic but firm treatment. Some time ago the Townsend Committee on Co-operation recommended that there should be one Inspector for every 25 depressed class societies. This recommendation coming as it is from an expert committee should be

rigorously followed in the future to insure the smooth working of these societies.

MANY FACES OF CO-OPERATION.

In Mysore State, the sphere of co-operative *societies ought to be extended beyond "credit"* and must permeate every branch of economic life of the people as in countries like Denmark and Holland. Societies like labour contract societies, with the object of taking contracts *and thereby finding work for their members;* land reclamation societies; land mortgage banks: irrigation societies for keeping water channels in repairs and for irrigating jointly with the aid of water pumps; students societies, enabling students to obtain their stationery on terms more advantageous than the retailer; and Agricultural Demonstration Societies must gradually become a feature of economic life in Mysore. Though these are ambitious schemes, they are not beyond human means to achieve slowly and surely.

Madras Since the British Conquest—V.

By The Editor.

Stephen Rumbold Lushington was, as stated before, succeeded by General Sir Frederick Adam in the Governorship of Madras. Sir Frederick was the son of the Right Hon. William Adam and had had a distinguished career in the Army. Entering the guards in the year of the final capture of Seringapatam, he had seen since in Egypt, Sicily and Spain, and had acted as A. D. C. to the Prince Regent. He had been made a Major-General in recognition of his services and had commanded a Brigade at Waterloo. He had earned the K.C.B. and served for three years, from 1824 to 1826, as Lord High Commissioner of the Ionian Islands and been made a G.C.M.G., and a Privy Councillor in 1831. His appointment as Governor of Madras was, as will be seen presently, well received at the time. He held his first levee on October 29, 1832, and the day, according to the *Madras Courier*, was "particularly favourable, in the attendance of nearly all the Civil and Military officers at the Presidency, rendered it one of the throngest assemblies of the description which has been witnessed for a length of time."

THE GAY SEASON.

The gay season commenced appropriated by the levees and parties of the new Governor and his lady. On the 14th November, His Excellency held a levee for the purpose of receiving the Indian Officers of the Army at the Presidency, Indian heads of public offices and their deputies and other Indian gentlemen. The assembling of respectable Indians on this occasion was very great, upwards of five hundred having been presented. The satisfaction they received is expressed in a letter from a Hindu gentleman, written in the name of the Indian Community, inserted in the *Government Gazette*, in which the writer, referring to the boon recently extended to them", says:—"The ebullition of joy which this event has produced in their hearts, and the profound veneration and respect with which they mention this great personage, as one who seems to have at heart the amelioration of the condition of those who have the good fortune to be placed under His Excellency's administration, are circumstances, of which I feel unable to give an adequate idea to the public."

A SECOND LEVEE.

Next day another levee was held, to receive the members of the East Indian Community, "on which occasion," says the *Madras Courier*, "the whole of that respectable class at the Presidency attended and were politely received by the Right Hon. gentleman, who seemed highly gratified at seeing so numerous a body of descendants of Europeans, and whose appearance bespoke so much that upright and praiseworthy character for which they are remarkable." As this was the first occasion on which these classes had been received by the head of this Government in a public manner, it created a good deal of speculation among them. On the same evening, there was a public ball at the Madras Rooms, at which the Governor, Lady Adam and Miss Adam were present, and it was taken as auguring that public amusement at the Presidency will "emerge from their state of torpor".

On the 20th Lady Adam gave a grand ball at the Banqueting Room, which drew thither all the beauty, rank and fashion of the Presidency.

ADMIRATION FOR THE NEW GOVERNOR.

Evidently the new Governor had impressed well. A Madras correspondent of the *Bengal Hurkaru* gave expression to the prevailing

sentiment. "Our present worthy Governor," said he, "is greatly liked, as much for his own sake as for having re-established the kind and hospitable customs, and brought the honest times of poor inestimable Sir Thomas Munro to our recollection again. Sir Frederick Adam receives all his company, upon business or otherwise, at breakfast, in Munro fashion, and has given the settlement a magnificent entertainment in the Banqueting Room, where all appeared at home and at ease, for the first time these last five years."

Sir Frederick's Lustrum.

Sir Frederick Adam's Lustrum, however, commenced under certain initial disadvantages. Thus, we hear of the drought and failure of the south-west monsoon and visits of locusts destroying the paddy crop and occasioning a dearth of grain in the interior of the country. The Government withdrew the duty on the import of grain and took measures to avert the effects of such a calamity. It was also apprehended that, in conjunction with the inundation caused by the storm, much distress would prevail among the people. But these fears, however, proved groundless as the year advanced. Looking back over the period, Sir Frederick's period of office proved a singularly eventful one. His period of office coincided partly with the latter half of Lord William Cavendish Bentinck's administration (1827-1835) and partly with the administrations of Lord Charles Metcalfe (1836) and Lord Auckland (1836-1842). The consolidation of British power continued apace throughout the Presidency. Mysore temporarily passed under the British; Coorg was eventually annexed; Kurnool showed signs of unrest; and there were disturbances in the Guntur country. These were, as might be expected, soon put down, and were not allowed to interfere with even the tenor of the progress of the Presidency. Steam communication with Europe became a frequent topic of discussion; a chamber of commerce was brought into existence at Madras; an impetus was given to trade; the question of railway development was taken on hand; encouragement was sought to be offered for the cultivation of commercial products; a break-water scheme for Madras was mooted; the legal and medical education and absorption of Indians into the public service was earnestly taken up. Missionary activities became more and more energetic; attempts were made to dissociate the Company's officials from all connection with temples and the celebration of Hindu festivals and rites as the representatives of Government: a temperance campaign was initiated; and the development of Nilgiris as a sanatorium received adequate attention.

The News Papers of the Period.

All the old newspapers continued to serve the public, in the beginning of Sir Frederick's Governorship, though later there were a few casualties among them. The Press was practically free, thanks to Sir Frederick, overlooking the occasional mistakes of over-conscious editors. From a carefully prepared list of the papers of the period, it would seem that Madras was already the great centre of the newspaper industry. No wonder the Madrasi journalist has long enjoyed a fame all over India for his versatility and talent! Among the new journals, besides the *Fort St. George Gazette* (1832), there were in existence the following papers in Madras during the period of which we are writing:—The *Madras Christian Observer*, the *Conservative*, the *Standard*, the *Madras Times*, the *Carnatic Chronicle*, the *Madras Literary Gazette*, the *Madras Harkaru*, the *U. S. Gazette* (1837), the *Missionary Record*, the *Seventh Day* and the *Philadelphian*. From Calcutta, they had in circulation, in Madras, at any rate to some small extent, the *Bengal Harkaru* and the *Calcutta Courier*. Of these, the polyglot *Carnatic Chronicle* ceased to exist in 1835. The conduct of these journals was by no means unfriendly to Sir Frederick though on occasions his continued absence on the Hills—their attraction has ever been great to Madras rulers—led them to write rather freely about him. But Sir Frederick was cast in a mould all his own: he was imperturbable to a degree and his friendliness for the Press was never disturbed. He thus eventually acquired the reputation of an ally and not an opponent of the pretentions of the Press of the time. His Governorship was, indeed, marked by the coming into existence of numerous newspapers and the propriety of public proceedings were, as it was remarked by one of themselves, "manfully canvassed".

A Typical Despatch from the Court.

These papers, as might be expected, throw much light on the happenings of the period. I might as well begin the chronicles of the time by a reference to a letter from the Court of Directors which illustrates the commercial instinct which governed their transactions with their servants in this country. In the *Fort St. George Gazette* of the 10th November 1832, we have an extract from a letter from them, dated the 4th July preceding in which they intimate their intention henceforth to reduce

the rate of interest granted to several compassionate civil and military funds in India from eight to five per cent, and the rate of exchange in effecting their remittances from 2*s.* 4*d.* to 1*s.* 11*d.* to the rupee. The difference between the two rates of interest and exchange was, it was directed by them, to be credited as direct contribution; but the Court, at the same time, intimated that they could not engage to continue to an indefinite extent, either as to time or amount, a mode of assistance which had so far exceeded what had been contemplated by them when they first granted it. The Court thus would seem to have killed two at a strike and added an admonition as well for the future. Evidently they were depressioned on economy, frightened by the heavy expenditure entailed by the Burmese War. Lord William Bentinck's other financial measures such as the abolition of "half-batta" and allowances to the civil service, to give effect to their orders in this connection and the unpopularity they brought on his head are matters of history. Thornton, rather uncharitably describing him, says that he "added the treachery of the Italian to the caution of the Dutchman". This contemporary verdict has been justly contested by later writers who have recognized in Lord William a first-rate statesman who laid the foundations of a secure British Empire in India.

Mysore Affairs.

In January 1832, there had been rumours of an impending visit of Lord William Bentinck, Governor-General, to the Presidency with a view to proceed to Mysore to settle the affairs there. The *Calcutta Courier* of 12th January which gave currency to this rumour proved a false prophet. The visit did not come off until 1834. But Lord William, after ordering the assumption of the administration of the Mysore State by two Commissioners (Col. J. Briggs and T. C. M. Lushington) in October 1831, however, appointed a committee of four members—Major-General Hawker, Colonel William Morrison, Mr. J. M. Macleod, and Lieut.-Col. (afterwards Sir Mark) Cubbon—to investigate "the origin, progress and suppression of the recent disturbances in Mysore". Their Report, dated 12th December 1833, bore eloquent testimony to the injustice done to Mysore by the order of assumption passed by Lord William Bentinck. This is also borne out by his Despatch to the Secret Committee of the Court of Directors dated the 14th April 1834, which was penned immediately after the receipt of the Committee's Report. In this letter, he was forced to entertain doubts about "both the legality and the justice" of the measures he had adopted and he added: "I cannot but think that it would have been more fair towards the Raja had a more distinct and positive warning been given him that the decided measure, since adopted, would be put in force, if misgovernment should be found to prevail." The alleged misgovernment on which the assumption of the administration was based was thus found to be untenable; what was worse, under the Treaty of 1799, such assumption, while it could not have been adopted for any alleged misgovernment, could have been justified "with a view to secure the payment of the subsidy", which had never been in jeopardy, having been regularly paid by His Highness the Maharaja (Krishna Raja Wodeyar III). Lord William Bentinck felt compunctious of conscience at the step he had taken and wrote preparing a partial restoration of the territories assumed, which, however, did not meet with approval. The Report of the Committee, however, laid bare another aspect of the case. Their searching examination showed in the words of the *Bengal Chronicle* of the time, that the disturbances were due to the "mismanagement on the part of the ex-Resident". The reference is to the Hon. Mr. A. H. Cole who did not exactly hit off with His Highness the Maharaja during the latter part of his Residentship. The best evidence for this statement is contained in Sir Thomas Munro's minute, dated the 8th November 1825, which, indeed, starts with the alleged "misunderstanding" between the Resident and His Highness. The subject proved a "distressing" one to Lord William Bentinck if the *Pall Mall Gazette* of September 26, 1866, is to be believed, he is said to have "repented of what he had done, and spoke after his return to England, of this act (the assumption of Mysore administration) as the only one throughout his whole career the retrospect of which disturbed his conscience." Lord William Bentinck, after a perusal of the Mysore Committee's Report, determined to pay a visit to Mysore and meet His Highness and propose terms more satisfactory to him, by way of *amende honorable*. About this time, affairs in Coorg were assuming a serious aspect owing to the misrule of Vira Raja and this provided another reason for Lord William Bentinck's visit to the South. Perhaps a third reason was his own health which had been failing for some time. Lord William, accompanied by Sir Edward Ryan, accordingly arrived in H. M. S. [illegible], at the Presidency, on the 15th February 183[illegible] and, according to the newspapers of the day, was to

leave for Bangalore the next week. His Lordship arrived at Mysore on March 16th, 1834, and stayed on the Chamundi Hills. Interviews followed and representations for a fresh treaty with Mysore on the terms of partial restoration were made to the Court of Directors by the Governor-General. But this did not, as already mentioned, meet with approval and there was accordingly no change in the position. In June 1832, the Madras Government ceased to exercise superintendence over Mysore affairs, its place being taken by the Government of India. About this time serious differences of opinion came to prevail between Lieut.-Col. Briggs, the Senior Commissioner and Mr. J.M. Macleod, the Junior Commissioner, with the result that the former resigned his position on the Board. His place was taken about November 1832 by Lieut.-Col. Morrison, C.B., who in April 1834 became sole Commissioner. Col. Morrison, however, was shortly afterwards transferred as a Member of the Governor-General's Council and Colonel (afterwards Sir Mark) Cubbon, who had been Commissary-General and later Junior Commissioner in Mysore, took his place, and continued in it practically until his death in 1861. The office of Resident was, however, continued for some time yet. The Hon. Mr. A. H. Cole was succeeded by Mr. J. A. Casamaijor of the Madras Civil Service. He was, in 1834, succeeded by Col. J. S. Fraser, who had, as will be mentioned below, just carried out the deposition of the Raja of Coorg and the annexation of that country. He became Resident in Mysore and Commissioner of Coorg. In 1836, he was made Resident in Mysore, being shortly afterwards transferred to Travancore and then, in 1838, to Hyderabad. Major R. D. Stokes succeeded him in Mysore and remained till 1843, when the post of Resident was abolished.

We have, however, anticipated a great deal in the above summary of official changes in Mysore between 1825 and 1861. Before we take leave of Mysore affairs, we would do well to get some idea of what happened in it and in the adjoining province of Coorg to necessitate the changes in it, which are reflected in the newspapers of the period.

Growth of Trade within the Empire.

Empire Marketing Board's Report.

London, 1929.—Remarkable evidence of how trade within the Empire has developed is contained in the Third Annual Report of the Empire Marketing Board published to-day (H.M. Stationery Office, price 1/- net). "The newness of many of the great exporting industries of foodstuffs and raw materials in the oversea Empire is not," states the Report, "perhaps, quite adequately appreciated. Every one of the Dominions and many of the Colonies have advanced within the last fifty years from a relatively modest position into that of important contributors to and purchasers in the great markets of the world. There has been an extraordinary development of the Empire's resources ever since the beginning of the present century.

A survey confined only to the leading exports shows that Australia's shipments of wool have risen in this period from slightly over 500 million lbs., to about 800 million lbs., and her exports of wheat from half of a million tons to two million. Canada's wheat exports have grown from about a quarter of a million tons to approximately seven million tons, and her exports of newsprint from next to nothing to two million tons. New Zealand's principal exports are wool and dairy produce; the first has gone up from under 150 million to over 200 million lbs., and butter from less than a quarter million, and cheese from 100,000 cwt. to nearly one and half a million cwt. in each case. In the Union of South Africa shipments of wool have risen from 90 to 260 million lbs. Newfoundland has developed since the beginning of the century, an export trade in paper to the annual value of £2½ million. India, which cannot, of course, be compared with the Dominions for newness, nevertheless shows a similar advance. Exports of nearly all her numerous products have shown progress in the present century. Raw cotton, her main export, has increased from 400 million to nearly 1,500 million lbs. last year and tea from 190 million lbs. to 360 million lbs.

In the Colonies an even more marked development has occurred. Cocoa exports, for instance, have risen from less than half a million to 110 million lbs. in Nigeria, and from less than one and a quarter million to 490 million lbs. in the Gold Coast. Exports of rubber from British Malaya have grown from nothing to about 370,000 tons, although some part of the rubber exported has its origin outside British territory. Tea from Ceylon has gone from 140 million to

228 million lbs., rubber from 73 cwt. to one and a quarter million cwt., and copra from less than half a million to two million cwt. Bananas from Jamaica (8¼ million to 17 million bunches last year) may be quoted as a further instance.

RANGE OF EMPIRE SUPPLIES.

The development of the natural resources of the oversea Empire is thus being carried out with steady effectiveness. The significance of this to people in the United Kingdom may be seen more vividly, perhaps, from another angle. The range of Empire products available in this country is year by year spreading. A revolution in Empire supplies has happened within the lifetime of those who are now barely middle aged. Memories are short in such matters and this revolution has hardly been noticed by the general public which has been so considerably affected by it. An article, not to be found in the land yesterday, appears as a curiosity and a luxury in a limited number of shops to-day, and comes down within reach of everybody to-morrow. But its former rarity is quickly forgotten and the new contribution to the variety of diet (and often also to health) is accepted without curiosity. That this should be so is natural. The additions made and being made by the Dominions and Colonies to our supplies deserve, however, to be emphasized in any consideration of the progress of Empire marketing.

Two generations ago, the United Kingdom derived only a very limited range of its requirements from oversea parts of the Empire. The fiftieth anniversary of the first shipment of frozen meat from Australia will take place towards the end of this year, while New Zealand's meat trade only began in the eighties. Fifty years ago only small quantities of butter and cheese came from the Southern Dominions; the tea industry of Ceylon was no more than a few years old; Canada had not yet begun to export apples, and no pears, plums, grapes, or peaches from South Africa and no apples or pears from Australia had reached this country. Rubber from Malaya, bananas from Jamaica and cocoa from West Africa were equally unknown. A quarter of a century later, in 1904, these products had all appeared on the United Kingdom market some of them, such as frozen meat and dairy produce, had become firmly established, others were in their infancy. But there were still hardly any Australian currants or raisins, no New Zealand apples or pears, no South African oranges or grapefruit and no Kenya coffee. Year by year the gaps were filled up. But as recently as the end of the war were no eggs from the Southern Dominions and scarcely any home produced beet sugar or canned fruits. In the last two or three years cigarettes made from Rhodesian tobacco have become familiar in our shops, cigarettes from Cyprus and Mauritius have been obtainable and canned fruit from Fiji, chilled salmon from Newfoundland and grapes from Palestine have, for the first time, been shipped to this country. Nor has this steady spreading of the range of Empire supplies ceased. New experiments in production are constantly reported and experimental consignments from many and scattered parts of the Empire give promise of an expansion in the future not less notable than in the past.

RECENT RECORDS.

High record shipments of various Empire-grown foodstuffs have been achieved in this same brief period of two years. Australian sultanas and raisins imported in 1927 were 160,000 cwt. greater than in any previous season, while Australian wine more than doubled its previous highest figure. Severe frosts towards the end of 1927 lowered these imports in 1928, but Australian apples, pears and canned fruit all made records. Imports of frozen lamb, frozen pork and cheese from New Zealand in 1927 reached higher points than ever before, but in the cases of the first two were surpassed in 1928, while butter and cheese came respectively within two and three and a half per cent of the record, and apples and pears both established new records. Shipments of oranges, grapefruit, peaches, grapes and wine from the Union of South Africa were all higher in 1927 than ever before. In 1928 grapes, oranges and grapefruit declined slightly, but were larger than in any year before 1927, while pears, raw sugar and wine all made records. Wheat and tobacco from Canada, coffee from East Africa and tobacco from Rhodesia are other commodities shipped to this country in 1928 in greater quantities than in any earlier year.

Such figures suggest that the marketing of Empire produce is being actively pursued in this country. Many agents, some of them outside human control (the weather, for instance) have intervened. But one conclusion may safely be drawn. The tide of Empire trade is flowing strongly. The Dominions and Colonies are able to supply more and more of the needs of the United Kingdom and, in return, the United Kingdom is finding in the oversea Empire a growing demand for British goods. Already, with many of the Dominions and

Colonies only on the threshold of their economic manhood, the oversea Empire, while it comprises only one-quarter of the world's surface and population, absorbs nearly half the exports of the United Kingdom.

The Empire Marketing Board has found in this active, stirring world of Imperial trade many new objectives in the last year towards the attainment of which its funds might properly and usefully be employed. It is naturally best known to the public through its publicity work, particulars of which are given in the body of the Report. But its other activities have been no less vigorously pursued.

These, seen as a whole, may be defined as the making possible of an Empire-wide effort in scientific co-operation. Such hopeful developments of the last year as the establishment of eight new Imperial Scientific Bureaux, jointly financed by the Governments of the Empire, and the appointment of the Colonial Advisory Council of Agriculture and Animal Health show how strongly the tide is flowing in favour of co-operation. Scientists and economists can between them offer four main contributions towards the furtherance of Empire marketing. First, they can help to develop to the full the at present barely tapped natural resources of the Empire. Secondly, they can help to render production as economical as possible by reducing waste in the field, in transit and in store. Thirdly, they can help to ensure that regularity of supply and uniformity of quality which are two essentials of progressive modern marketing. Lastly, they can provide knowledge, on the one hand, of crop prospects and general trade conditions in any producing industry and, on the other hand, of the special demands and preferences of the consuming public and of the traders through whom that public is reached. All the Board's expenditure on research and on economic investigation serve one or more of these ends.

It is essential in such work to take long views; the prizes at stake are tremendous and, while the trend of trade cannot be changed in a day, there is no discoverable limit to the rewards that may fall to wisely directed research and well-planned economic organization. Certainly no industry that seeks to hold its own and still more to advance under the prevailing conditions of world competition dare turn its back on the scientist or the economist.

In conclusion, it need only be added that the Board has been encouraged by the evidence it has received from official and from commercial sources that its work is considered useful by those who may be termed its clients, that is, by the producers of the Empire at home and overseas.

Indian Caste System: A Study—III.

By The Editor.

The origin of caste, whose development has been briefly touched upon already, has given rise to much speculation. The many theories which have been put forward in regard to it have sometimes mistaken development for origins proper. Modern theorists have differed so much from each other and have elaborated their views at such length that it is not possible to attempt more here than a brief reference to them. The Historian, Mill, has suggested that the original division must have been the work of some inspired individual, a legislator, or a social reformer who perceived the advantages that would result from a systematic division of labour. The subordination of castes he accounts for by the superstitious terror and the designing lust of power which have so frequently been invoked to explain the natural supremacy of the religious class. Because the ravages of war were dreaded most after the calamities sent by heaven, he finds that the military class properly occupy the second place. This arrangement he apparently contemplates as at no time either necessary or wholesome and as finally destroyed by the degradations which the multiplications of trades made inevitable. Heeren and Klaproth have contended that the division into castes is founded on an original diversity of race, and that the higher castes are possessed of superior beauty. The clear complexion and regular features of the Brahmans are said to distinguish them as completely from the Sudras as the Spanish Creoles were distinguished from the Peruvians. This explanation is, however, generally conjoined with that founded on the tradition of conquest by the higher castes. It is suggested in this connection that the three castes of higher colour (*Trivarnika*)—the white Brahmans, the red Kshatriyas, the yellow Vaisyas—are at least in the early hymns and Brahmans spoken as the Aryas, the Sanskrit-speaking conquerors, in contradistinction to the dark of the aborigines, the *Dasyus*. In fact, Arya,

which means householder, was, it is added, the original name of the largest caste now called the Vaisyas. Roth holds that the Vedic people advanced from their home in the Punjab, drove the aborigines into the hills, and took possession of the country lying between the Ganges, the Jumna and the Vindhya Range. "In this stage of complication and disturbance," says he, "power naturally fell into the hands of those who did not possess any direct authority," *i. e.*, the domestic priests of the numerous tribal kings. "The Sudras," he regards "as a conquered race, perhaps a branch of the Aryan stock, which immigrated at an earlier period into India, perhaps an autochthonous Indian tribe." The hypothesis is slightly modified by Meiners, who supposes that instead of one conquest there may have been two successive immigrations—the first immigrants being subdued by the second, and then forming an intermediate class between their conquerors and their aborigines; or if there were no aborigines, the mixture of the two immigrant races would form an intermediate class. In the same way Mr. Talboys Wheeler suggests that the Sudras may be the original conquerors of the race now represented by the Pariahs. Criticising these theories, Mr. W. E. Smith, the author of the article on *Caste* in the last edition of the *Encyclopædia Brittanica*, says that most of these suggestions and explanations seem rather to describe the mode in which the existing institutions of caste might be transplanted from one land to another, from a mother-land to its colonies, and altered by its new conditions. Military conquest though it often introduces servitude does not naturally lead to the elevation of the priesthood. "It is unscientific to assume large historical events, or large ethnological facts, or the existence of some creator of Social Order." Mr. Smith also combats the view of Roth that the Sudras might be an autochthonous Indian tribe. He says that this hypothesis is opposed to the fact that, while the Sudra is debarred from sharing important Vedic sacrifices, the Bhagavata Purana expressly permits him to sacrifice "without mantras" and imposes on him duties with reference to Brahmans and cows which one would not expect in the case of a nation strange in blood. While the subordination of the Kshatriya who *ex hypothesi* should have contributed most to the conquest to the Brahman is not quite intelligible to him except on the basis of a previous subordination of castes—among the conquerors, he thinks that the position of the Sudra certainly suggests conquest. "But are there," he asks, "sound historical reasons for supposing that Brahmans and Sudras belonged to different nations, or that either class was confined to one nation?" Professors Macdonnell and Keith agree in thinking that "it is reasonable to reckon the Sudra of the later texts as belonging to the aborigines who had been reduced to subjection by the Aryans." Mr. Rama Prasad Chanda, an Indian scholar, writing recently, disputes this view and suggests that the status of a Sudra of the later Vedic age was like that of slaves or serfs of Europe. He thinks that the internecine wars of the Aryans themselves ended in the taking of war-captives who eventually became slaves. It is known that these wars lasted into the period of the later Samhitas and Brahmanas. War-captives, whether of the Aryan or Dasyu race, were, according to him, treated alike and turned into slaves. He quotes Manu (VIII—415) to show that this mode of making slaves was a well-recognized one. Zimmer may be said to take a similar view. Difference of caste, according to him, has arisen partly out of religious distinctions, partly out of racial and tribal differences and still more out of hereditary crafts, occupations and modes of life. In the Vedas we only see the beginnings of such a system. But long before any ideas of religious and ceremonial distinction was developed, the tribes appear to have recognized a certain 'classification' which in fact became the foundation of the caste system. There were, from the first, priests, or rather, singers of those sacred hymns and invocations, the proper use of which had the great effect in securing victory and abundant spoil. And the course of adventure which the advancing tribes were pursuing would not fail to bring into prominence the warrior class—especially those noble and distinguished families which gave birth to the natural leaders of the clans, and which afterwards furnished the Rajahs and Chiefs who arose out of the earlier tribal organization. These two classes grew into the 'twice-born' (Brahman and Kshatriya) castes. These two chief castes apart, all the bulk of the people are merely spoken of as *Vis*, which later became *Vaisya*, *i.e.*, 'the (Aryan) common people'. Every invading army or colonizing nation, however, comes with a host of camp followers and inferiors probably of various origin; among the Aryans some had appearntly been admitted at least to the outer courts of the community, and had conformed to Aryan customs. Accordingly as the settlement progressed, so another (fourth) group came to be distinguished. Perhaps one of the tribes early admitted within the Aryan pale may have

originally had the name Sudra; or it is possible that some of the camp followers or serfs were called by that name. As the Aryans settled down, mixed races began to grow up. The Aryan influence indeed extended as much by mixed marriages, alliances and conversions, as by direct conquest. Before long the converted aboriginal and mixed races acknowledging Hindu customs alike required a new name; they became fused with one general class, and were called *Sudra*. The races who were not received with the pale at all remained 'outcastes'. These broad divisions soon came to be split up into many groups, and into subdivisions innumerable and the old general names remained chiefly in the books, and were used as generic terms rather than as actual caste-names.

Arguing from a different point of view, Sir Alfred Lyall comes to the conclusion that caste is posterior to the tribe. "It would seem to be a reasonable theory," he suggests, "that the caste as an institution, is of a later formation than the tribe. For, so far as the actual course of things can be watched, in early and wild times a tribe or clan regularly throws off another tribe or clan after its own kind as swarms come out of a wild bee's nest, the state of the world being favourable to the existence of such groups. But there comes a later period when the pressure of powerful dynasties and the rise of industrial bodies render tribal formations no longer possible, driving men into peaceful pursuits and swallowing up petty independencies. In the Western world, these agencies rapidly obliterated the tribes, and gradually produced the modern population pounded up and measured out into nationalities with their kinship narrowed down to the immediate family and the prohibited degrees very closely down. In India religion seems to have stepped in as the tribal institutions dissolved, and to have stung all the kindred groups upon the great circle which call caste. Within a caste the inner rings of consanguinity survive but in a stunted condition as compared with a clan within a tribe, it being obviously impossible that in this altered phase of society the kindred groups should continue to hold together by the fiction of descent from a common stock. The folk take to various occupations, inhabit different places, contract strange marriages, worship other Gods; the ups and downs of more complicated life break short the pedigree, sever the kinship and rub off the patronymic; the distant branches of a family fall out of sight and the long genealogies of the clan give place to the comparatively narrow tables of prohibited degrees which prevail among castes. Then the trade, or the profession or the common ritual becomes the bond union instead of descent or political association, and thus the mixed population of India may have re-arranged itself into castes, propelled into those grooves by the archaic and inveterate exclusiveness of primitive Asiatics regarding marriage and food. You must not marry one of your own blood but neither must you marry a stranger of unknown descent and foreign habits; your caste means those with whom you may safely inter-marry and share food without risk of incurring some unlucky taint which may give you much trouble in the existence and the next."

This theory of caste originating from the tribe has, however, not gained general acceptance. Sir Herbert Risley says that "the conjecture seems at first sight plausible; but a glance at the facts will show that the transformation in question is confined to those tribes which have been brought into contact with the regular caste system, and have adopted its characteristic usages from religious or social motives. The Manipuris, for example, were converted from Nagas into Hindus only a century or two ago, and I am informed that the family archives of the Raja contain an account of the process by which the change was effected. The Bhumij, again, were a tribe at a still more recent date, and retain plentiful traces of their origin. On the other hand, the races of Baluchistan, where Hindu influence is practically non-existent, show no inclination to follow the example of the Indian Muhammadans and organize themselves on the model of caste. The primitive tribe in fact, wherever we find it, is not usually endogamous, and, so far from having any distaste for alien marriages, makes a regular business of capturing wives. This practice has given rise to one of the forms of infanticide and may well have been the cause of the extinction of the whole tribes in the early struggle for existence. In short, when tribes are left to themsleves, they exhibit no inborn tendency to crystallize into castes. In Europe, indeed, the movement has been all in the opposite direction. The tribes consolidated into nations; they do not sink into the political impotence of caste."

Sir Henry Summer Maine suggests that the origin of caste is to be sought in literacy fosterage. After pointing out how, under the Brehon Law, the literary foster-father, though he teaches gratuitously, has a claim through life upon portions of the property of the literary foster-son and under the Hindu Law, though the Brahman teacher of Brahman pupils

receives no payment for his services, the Hindu Law repeatedly reserves to him a remote succession to their property and how in later days in Ireland the art and knowledge of Brehon Law became hereditary in certain families who were attached to or dependent on the chiefs of *particular tribes, and in India, a vast number* of trades and professions exercising particular crafts or possessing particular kinds of knowledge became castes, he says :—" We do not, however, thus arrive at a complete account of the growth of those castes which are definite sections of great populations. One only of these castes really survives in India, that of the Brahmans, and it is strongly suspected that the whole literary theory of caste which is of Brahman origin, is based on the existence of the *Brahman caste alone. Now the tendency* of knowledge to become hereditary is by itself, consistent with a great variety of religious and literary cultivation : but as a fact, the Brahmans of India are a remarkably homogeneous class, admitting (though no doubt with considerable local qualifications) a general brotherhood of all members of the order." He then thus enlarges his theory :—" While, then, I cannot say that our scanty information respecting changes in the status of the Brehon lawyers helps us much towards a comprehension of the beginnings of caste in the true sense, I certainly think that we learn something more than we knew before from the references in the Brehon tracts to Literary Fosterage. They appear to *me to give a new emphasis and point to the rules* of Hindu Law respecting the remote succession of the 'spiritual preception' to the property of families. It seems as if in the most ancient state of both systems Literary and Religious fatherhood had been closely assimilated to actual fatherhood. Under these circumstances, if great schools of Vedic learning existed in India in very ancient times, as we have strong reason to think they did the relation between teacher and pupil would closely *follow and imitate the relation* between father and son. A great position would thus be formed, with stores of common knowledge, but the tie between the members would not be purely intellectual : it would from the first be conceived as of the nature of kinship. Such a system, as the old ideas decayed, would tend infallibly to become one of real consanguinity. The aptitude for sacred knowledge would come to be thought to run in the blood of sons whose fathers had been instructed in it and none but such sons would be received with the schools. A caste would thus be formed, in the eyes of its members, the type of all castes."

In so far as this theory is based on the idea that community of occupation is the basis of caste, it may be remarked that it has not so far received any support. If this were so, as M. Senart points out, the institution "await mantre moius de tendance a se morceler, a se disloquer : l'agent qui l'aurait uniffe d'abord en aurait maintenu la cohesion ". Putting it in another way, Sir Herbert Risley says that if the current idea were correct, all cultivators, traders and weavers ought to belong to the same caste, at any rate within the same area ; but every one knows that this is not the case ; that the same occupation embraces a whole crowd of castes, each of which is a close co-operation though the members of each carry on in exactly the same way the avocation that is common to them all. *He* also points out that *the analogy* between Indian caste and the trade guilds of Mediæval Europe is misleading. Castes are endogamous, while the trade guilds were not ; then again castes do not admit outsiders into their ranks, while the trade guilds did. This admission of strangers helped the trade guilds to expand and develop. " A caste is an organism of a lower type ; it grows by fission and each step in its growth detracts from its power to advance or to even preserve the art which it professes to practise."

In the Punjab Census Report for 1881, Sir Denzil Ibetson outlined a somewhat more comprehensive view of caste. The chapter relating to it has been recently reprinted in *book form and is easily available for reference.* The following passage taken from it sums up his theory :—"Thus, if my theory be correct, we have the following steps in the process by which caste has been evolved in the Punjab :—(1) The tribal divisions common to all primitive societies ; (2) the guilds based upon hereditary occupation common to the middle life of all the communities ; (3) the exaltation of the priestly office to a degree unexampled in other countries ; (4) the exaltation of the Levitical blood by a special insistence upon the necessarily hereditary nature of occupation ; (5) the preservation and support of this principle by the elaboration from the theories of the Hindu creed or cosmogony of a purely artificial set of rules, regulating marriage and inter-marriage, declaring certain occupations and foods to be impure and polluting and prescribing the conditions and degree of social intercourse permitted between the several castes. Add to these the pride of social rank and the pride of blood which are natural to man and which alone could reconcile a nation to restrictions at once irksome from a domestic and burdensome from a material point of view ;

and it is hardly to be wondered at that caste should have assumed the rigidity which distinguishes it in India."

M. Senart in his critcism of this theory first demurs to the share which he supposes it to assign to Brahmanical influence and challenges the supposition that a strict code of rules, exercising so absolute a dominion over the consciences of men, could be merely a modern invention, artificial in its character and self-regarding in its aims. Then he takes exception to the disproportionate importance which he conceives Sir Denzil Ibetson to attach a community of occupation, and points out that if this were really the originally binding principle of caste, the tendency towards incessant fission and dislocation would be much less marked: the force that in the beginning united the various scattered atoms would continue to hit them together to the end. Both these criticisms, in Sir Herbert Risley's view, "appear to miss an essential feature in the scheme, the influence of the idea of kinship, which is certainly the oldest and probably the most enduring factor in the caste system, and which seems to have supplied the framework and motive principle of the more modern restrictions based upon ceremonial usage and community of occupation."

Economics in the West.

The New Reparation Plan.

London, 31st July 1929.—After the Dawes scheme, the Young report. *It is difficult to say* which is the more ingenious, but there can be *no two opinions as to which holds the seeds of* more far-reaching consequences to the world as a whole. As with all such documents, the desideratum of unanimity lays the report open to criticism at some points, less for what it says than for what it leaves unsaid. If, indeed, there is any solid ground for discontent with the latest report, it is to be found in the fact that it raises, by implication, a number of important questions the answers to which will need to be long, and perhaps painfully, sought. A comparison of the Dawes scheme, which is about to complete its fifth year of operation, and the Young plan, whose fate has not yet been sealed, will bring some of these unanswered questions into the light of day.

Let us begin with a question that is fairly easily answered. What is Germany to pay under the new plan, as compared with the old? Under the Dawes scheme, now in operation, the standard annuity is 2,500 millions of gold marks. Over and above this fixed sum, a supplementary contribution, varying with a composite index of German prosperity, is required, in the event of the index being above the prescribed base. In addition, the payments are subject to increase or decrease according as the world value of gold, in terms of commodities, falls or rises respectively beyond a specified margin. Thus it was arranged that the real burden of the payments should vary directly according to German welfare, and should be unaffected by large-scale changes in the value of the world's metallic monetary basis. In both these respects the reparation settlement was in marked contrast with the various agreements respecting inter-allied debts. Under the new plan both the variables are swept away, and *Germany is to pay prescribed sums ranging* between about Rmk. 1,700 and 2,400 millions for a period of thirty-six German fiscal years, followed by amounts of Rmk. 1,600 to 1,700 millions for nineteen subsequent years, and of about Rmk. 900 millions for three more years. Consequently the plan proposes a material reduction in the pre-arranged annuities payable. This fact, together with the removal of the index of prosperity, is in Germany's favour. The omission from the new scheme of the gold fluctuation proviso may or may not prove to be in Germany's favour, *according to whether the price level rises or* falls. The balance of probability seems to be on the side of a fall, so that the removal of this ground of variability is more likely than not to be a concession, from Germany's point of view. And here an important question arises. Was this clause abandoned because stability of the price level was envisaged, or merely because the allied debt settlements contain no similar provision? If the second reason was the sole or predominant one, then we have here one among a number of recognitions, contained in the scheme, of the indissolubility of debts and reparation. *If the first was uppermost, then* we have a significant indicator of the ultimate *ends in view in drawing up the plans for the* projected Bank for International Settlements. On both these points more will be said later.

Reparation and Inter-allied Debts.

The size of the annuities, however, cannot be taken as standing alone in comparing the

Dawes and Young schemes. The Dawes plan fixed no period for the annuities: the Young plan does. *The new schedule of payments,* indeed, constitutes an ingenious example of compromise between conflicting documents and interests. The Treaty of Versailles, which in this connection has in practice been almost jettisoned, required the Reparation Commission to draw up a schedule of payments for settlement of the reparation debt within thirty years—a plan which soon proved entirely beyond the realms of possibility. By contrast, the various inter-allied debt settlements cover periods of more than sixty years. The new schedule of payments provides for the covering of inter-allied debts throughout the whole period required for their liquidation, as well as for substantial sums on account of reparation proper during the earlier part of the period. *Here, then, we have the closest possible relationship* established, in authority as well as fact, between allied debts and reparation, and—perhaps even more significant—established by *a committee presided over by an American* expert. It must be remembered, however, that the American experts were appointed in such a way as to avoid any appearance of power to bind, or even implicate, the United States Government.

In another part of the proposals the same connection is recognized again. It is provided that if in the course of time the liabilities, on inter-allied debt account, of reparation creditors are reduced, the greater portion of the relief shall automatically be passed on to Germany. This is clearly an extension of the basic principle of the Balfour note, which has been written into various agreements, ratified and unratified, between this country and her European allied debtors. It is a principle, admirable in its *generosity, which, now that it has worked its* way into the subject of reparation, places a heavy, perhaps not entirely welcome, and possibly somewhat unjustified responsibility on the *United States. Incidentally, it may be* noticed that if the scheme is accepted as it stands, Great Britain will depart from the Balfour principle to the extent of abandoning her claim to reimbursement in respect of the surplus amount already paid to the United States, over and above the sums received from reparation and allied debtors.

So far it would appear that the balance of advantage under the new plan certainly lies with Germany. The debt has been actually fixed, and the annuities reduced. What, then, is on the other side of the scales? In the first place Germany herself is to grapple with the problem of transfer. It will be recalled that under the Dawes plan Germany's obligation *was to be fulfilled when the required amounts of* marks had been paid into the Agent-General's account at the Reichsbank. On the shoulders of the Transfer Committee rested the responsibility for conversion into foreign currencies of the portion of the annuity payable in that form. Under the new plan the Agent-General and Transfer Committee, with the attendant Commissioners and Trustees, are all to be swept into the storehouse of historical relics, and Germany is to hand over to the proposed international bank not marks, but the amounts of foreign exchange required to liquidate her indebtedness.

GERMANY'S CAPACITY TO PAY.

Supposing, now, that Germany should find it *impossible to fulfil this obligation without* irreparable damage to her exchange; what then? Under the Dawes plan provision was made, if it were found impossible to transfer the *payments, for marks to accumulate in* Germany in prescribed forms and up to prescribed amounts, and for further payments to be curtailed, or even conceivably suspended, if the limits were reached. These arrangements, too, are to be swept away if the new plan is adopted. A portion of the annuity, namely, Rmk. 660 millions, is payable unconditionally throughout the period. Germany must pay this amount, and she must adhere to a full gold exchange standard—a dual arrangement which speaks volumes for the confidence of the experts in Germany's paying powers. The balance of the annuity is subject to a right of postponement of transfer, on Germany's own initiative after giving at least 90 days' notice, for not more than two years. If this right is exercised, *the sums affected must be handed over in marks,* though Germany has the further right, after postponement of transfer has been in effect for one year, to postpone payment of a part of the *conditional annuity for a period of one year.* Postponement, even of transfer, it will be noticed, cannot be for more than two years, so that these complex privileges merely constitute a right to put off the evil day. The only chance of indefinite relief in case of absolute and patent necessity lies in the appointment of yet another committee to consider the problem in such twilight as may be available if such an evil day is born. The plan provides, in the event of postponement, or merely of a statement by Germany that her exchange and economic position will be seriously endangered by further transfers, that the proposed international bank

shall at once convene a special committee to investigate the position and recommend remedial measures.

On these two accounts—the transfer obligation and the unconditional part of the annuity—Germany accepts new and heavy responsibilities. What, then, have the Young Committee to say on the question of ability to pay? The answer is: Very little. Presumably it was thought that the Dawes Committee had exhausted the question, though subsequent experience and the scaling down of the annuity under the new plan would hardly suggest that the subject had been finally closed in 1924. On this question significant figures relating to Germany's balance of payments in recent years have been published by the Reichs Statistical Office. They may be summarised in tabular form as follows:—

Germany's net export (+) or import (—) surpluses, 1925-28.

(millions of Reichsmarks)

	1925	1926	1927	1928
Commodity trade (including reparation deliveries in kind)	−2,439	+797	−2,987	−1,272
Other current items (including cash reparation payments)	−874	−1,240	−1,775	−2,442
Total import surplus, balanced by net borrowing abroad	−3.314	−443	−4,762	−3,714

The table gives a general idea of the scope of German borrowings in the past four calendar years, and indicates very clearly that reparation payments have been financed by the foreign investor. The absence from the Young report of the extended commentary that might have been expected on this aspect of the subject suggests that the committee confidently expect one of two things to happen: either a marked improvement in Germany's trading position, which will reduce her dependence on foreign resources, or alternatively an indefinite continuance of that dependence. The figures suggest that the first alternative is not being rapidly realized at the present time, and it is therefore in the second that a solution to the problem, at any rate for some time to come, must probably be sought. The committee presumably have no fear of unwillingness on the part of the foreign, particularly American, investor to go on for a protracted period sinking more and more of his resources in Germany.

The committee's proposals in regard to the mode of payment do not go far to cope with the problems which are only imperfectly hidden by silence on these points. They include a schedule of payments in kind, ranging downwards from Rmk. 750 to 300 millions over a period of ten years, when direct deliveries on account of reparation are to cease. For the rest, the annuity is to be paid, in equal monthly instalments, in the form of foreign exchange, handed over to the Bank for International Settlements, this obligation bieng subject to the limited rights of postponement already mentioned. Somehow, then, Germany is to acquire large sums of foreign exchange year by year, and it *must never be forgotten that there are two ways* only for a country to acquire foreign exchange. It can buy it, or borrow it. It would have been interesting had the committee stated their view of the proper and probable proportions to be observed between these two available means.

THE INTERNATIONAL BANK.

A large part—perhaps disproportionately large—of the committee's report, is concerned with the constitutions and functions of the proposed Bank for International Settlements. In the words of the report itself, as reprinted in the press, "the purpose of the Bank is to provide additional facilities for the international *movement* of funds, and to afford a ready instrument for promoting international financial relations. In connection with the German reparation annuities, it shall perform as trustee for the creditor countries the entire work of external administration of this plan; *shall* act as the agency for the receipt and distribution of funds; and shall supervise and assist in the commercialization and mobilisation of certain portions of the annuities." A more optimistic general statement is that "the new bank, in close association with the banks of issue and with the banking *facilities at its command*, will have all the necessary means of effecting these operations [payment and transfer of the annuities] without disturbance to the German economy or to the economy of other countries."

In view of the facts already brought out with regard to the German balance of payments, *this last prognostication is difficult to accept* without more tangible support than is given in the report. The crucial test is twofold: Will the Bank tend to improve Germany's balance of payments, or will it facilitate German borrowing abroad: and can it do either without disturbing the economy of Germany and or *other countries?* The committee suggest that the Bank should be prepared to finance capital projects, on reparation account, which might not otherwise be undertaken, thus "opening up new fields of commerce, of supply and of demand". Apart from this doubtful contribution, however, it is not easy to see in what substantial way the Bank can satisfactorily

conform to these tests. Indeed, it would hardly appear to have any powers in these directions superior to those of the Transfer Committee. The principal functional difference between the two bodies seems to be that, while the Committee bore the responsibility of converting marks into foreign exchange, the Bank is to have no such function. Germany is to hand over the exchange for the Bank to distribute.

Nevertheless, despite this shrunken field of operation, the Bank is to be a highly elaborate organization. It is to have an authorized capital e ual to $100 millions, one-quarter of which is to be paid up at the outset. The capital is to be offered mainly or wholly in the countries from which the experts were drawn, and the central banks of those countries, or banking groups approved by them, are to guarantee its subscription. The shares are to carry no voting rights, but the central banks in the countries of issue are to have votes corresponding to the amounts of the shares originally issued in each. This provision is in accordance with the general principle of central bank control, which is further accepted in the arrangements for appointments to the board. The governor, or corresponding officer, of the central bank in each of the seven countries from which the experts were drawn, or his nominee, shall be a director of the Bank. In addition, each governor shall appoint one other director from his own country. During the period of the annuities the Governor of the Bank of France and the President of the Reichsbank shall, in addition, each have the right to nominate a third director, while a maximum of nine more directors may be elected from among the nominees of central banks in countries other than the seven immediately concerned.

The Bank is to be endowed with wide powers, beyond its reparation functions. According to the rules laid down by the committee, it will be allowed to receive deposits from central banks, for clearing and other purposes. It is to receive also a special deposit from the German Government, varying on a prescribed system but not exceeding Rmk. 100 millions, for the first 37 years of the plan. It may pay interest on deposits not withdrawable for a month or more after their being received. Detailed reserve provisions are laid down against the various types of deposit. The Bank may make loans, discounts and investments, buy and sell gold, bills, securities and other instruments, rediscount bills for central banks, and indeed do almost anything parallel to what most central banks are permitted to do. With regard to the reparation annuities, the Bank is not only to replace the existing machinery of distribution and act as trustee on behalf of the creditors, but is to assist in, and in some circumstances initiate, the placing of bonds by way of mobilization of the reparation debt.

Mobilization of the Debt.

This brings us to another unanswered question. The committee devotes a large amount of space to the mechanics of mobilization, whether for the purpose of raising ready cash resources for the creditors, or of converting existing debts of the creditors to private investors into debts of Germany to those same investors. It does not, however, set forth any convincing reasons for undertaking mobilization. What benefits, precisely, are envisaged? The principal reparation creditor, France, already has very large stocks of foreign exchange in hand and shows little sign of any shortage of capital, so that from France's point of view the power to raise funds by the issue of reparation bonds would appear to have been ac uired some years too late. Further, there seems to be little to gain by directly converting internal debts of the creditor governments into German Government debts to British, French and other investors. Is it, then, desired to give a means of shifting the onus of external debts? This could be done by issuing reparation bonds for cash in America, for instance, and using the proceeds to pay off in advance part of the French or British debts to the United States Government. Action of this kind, however, would not fundamentally alter the position of the reparation creditors, for while it would reduce their payments to America it would *pari passu* reduce their receipts from Germany. The only change in the essence of the situation arising from any of these transactions would be the conversion of a debt to a Government into debts to private investors, and it is at least open to some uestion whether an essentially political debt should be so transferred, and whether it can in fact be transferred without any ill effects on the confidence and willingness of the investor to place further funds in Europe. This is another matter on which the views of the experts would have been helpful.

It has yet to be demonstrated, then, that the proposed Bank can be of any outstanding tangible service in facilitating liquidation of the reparation debt. Meanwhile Germany is to establish a gold exchange standard and is to accept the duty of furnishnig exchange instead of marks. The Dawes plan was designed largely with the object of demonstrating the palpable impossibility of transfer if circumstances should arise that rendered remittance

impracticable, but since the whole responsibility is now on Germany the Bank proposals make any possible default increasingly serious, without providing as a set-off additional means of payment. For these reasons, as well as the elaborateness of the organization over against the comparative simplicity of its reparation functions, it cannot be supposed that the Bank is designed merely for purposes of the reparation settlement. What, then, is the ultimate objective of its foundation? On this point, too, more is to be gained from the implications of the experts' recommendations than from the statements themselves. The close association of central banks with the proposed new institution indicates, as the Committee suggest, that the organization may provide an invaluable medium of conference, leading perhaps to more active co-operation, between central banks in the direction of stabilizing the world's money markets and regularizing the relations between them. A wide scope exists for work of this kind, as we know from recent, only too painful, experience. Then again, this same fact, coupled with the breadth of the powers to be conferred on the Bank and the abandonment of the gold adjustment clause of the Dawes plan, suggest that it may perhaps provide means of co-operation with the object of achieving relative stability in the value of gold. It may indeed be remarked that the reparation problem does not provide a very sweet and auspicious atmosphere for the growth of central bank co-operation, but at least it is satisfactory that the occasion has been seized for providing a means which may in course of time prove admirably adapted to just such purposes as have been mentioned. After all, the Bank of England itself was founded to meet the immediate exigencies of uncovered Government expenditure.

BENEFITS OF THE DISCUSSION.

There are still other unanswered questions arising from the scheme—such, for instance, as the most suitable centre for the establishment of the Bank—but enough has been said to show that the new plan is far broader in its implications, and for that very reason less definite in its outlying details and objectives, than its chronological fore-runner. The success or failure of the scheme as a means of dealing with the problem of German reparation payments depends, as has already been pointed out, upon Germany's ability to buy or borrow exchange. On this basic question of ability many widely divergent opinions are held by different people. But whatever the future may reveal as to the operation of the plan itself, the discussion o principles which led up to its formulation has undoubtedly been of great value. Let us enumerate four of the outstanding principles underlying, or involved in, the scheme. First of all, the report is to be welcomed for securing at long last a complete and frank recognition of the inseparability of reparation and inter-allied debts. It must not be thought that the question even now has been entirely settled, for it is not yet certain that all the Governments concerned are prepared to accept the principle, with its full implications: but at least the report marks a notable advance in this direction. Secondly, it is eminently satisfactory that the desirability has been recognized of relieving Germany from the foreign controls instituted for the collection of reparation payments. A stumbling block to progress along the line of more intimate association between the different parts of Europe is by this means removed. Thirdly, by the adoption of what is at present generally regarded as the internationally acceptable monetary basis, through the *de jure* restoration of a gold exchange standard in Germany, a step is taken towards universality of monetary principles. And finally, the report is significant for its recognition, by the scheme for an international bank, of the desirability of moving towards joint control, by continuous co-operative effort, over the world's monetary affairs. The plan provides a machinery which, whether envisaged in that light by the experts or not, may hereafter become an instrument for establishing and operating an international standard of value. On this ground it is possible that the conception of an international bank, provided it takes a form that is generally acceptable to those responsible for conducting monetary affairs in the various financial centres, may confer inestimable benefits on mankind long after reparation, like indemnity, has become little more than an item in the lexicon.

From Sabarmati Asram.

Mr. Chhagan Lal N. Joshi, Manager, Udyoga Mandir, Sabarmati, writes under date 9th September 1929:—"A large number of young men residing at the Asram, who propose to spend their future life for the economic regeneration of India, find your paper useful and are much interested in it....We shall, therefore, thank you......despatch the same from your latest issue."

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Canadian Trade and Finance.

Business Conditions.

Montreal, July 4, 1929.—From all parts of Canada there are satisfactory reports concerning the high level of business activity, although there are a few lines, such as automobiles, where the mid-summer recession is beginning to be felt. Building contracts for the first five months of the year exceeded the high records made in 1928; iron and steel production is at a maximum, and flour mills are turning out a larger volume than in recent years. The mining statistics for the first quarter of the year show a substantial gain over the record attained in 1928, and forecasts for total production for the year are optimistic. Although the recent fall in the price of wheat has made dealers in semi-luxury products somewhat cautious, the actual volume of distribution in the early part of the year has been exceptionally satisfactory.

As yet it is too early to forecast agricultural prospects for the end of the year. The return of the farmer depends upon quantity and grade as well as upon price. The outcome of crops in other parts of the world, a contributing factor of major importance, is too much a matter of circumstance to warrant undue pessimism concerning Canadian prospects for next year. In case the West should have an unprofitable year for wheat, there are circumstances which will tend to mitigate the effect of such a misfortune upon the volume of trade. In the first place, the past four years have placed the farmer in a relatively more satisfactory position to stand the strain of a period of adversity; in the second place, farming is of less relative importance in Canadian economy as a whole than before the war. With the growth in importance of mining, and the extension of the pulp and paper industry which is now in a much more satisfactory position than last year, together with diversification in general manufacturing, Canadian industry is much more stable than in the past. Although the failure to realize satisfactory profits would be a blow to the farmer, yet general business will not suffer to the degree that was characteristic of poor years in agriculture in the past. Early crop reports indicate that Canadian crops are making good progress and crop conditions may be considered normal for this time of year.

The Reparations Agreement.

The signature of the agreement as to the proportion of the cost of the war that shall be borne by Germany took place on June 7, 1929. Both because most of the countries on the continent have returned to comparative economic and financial stability and because this pact in itself is likely to bring about conditions favourable to further improvement in European business conditions, it is not improbable that chronologists of the future may select this date as marking the termination of the period of post-war rehabilitation in Europe. The most significant feature of these negotiations was the strong determination manifested by all the Governments concerned to arrive at a final agreement. As long as this important question was unsolved, all nations were necessarily somewhat handicapped in their efforts to give and secure the political and economic co-operation necessary for general prosperity. Each participant in the Conference made concessions of major importance. The net result of this agreement is that each European country will bear a burden of war debt roughly proportional to its per capita wealth.

In its essential features, the present agreement constitutes a working arrangement not unlike the Dawes plan, except that it sets a definite total of $8,800,000,000 as the present value of the future payments which are to be made. As under the former plan, there are three categories of payments: unconditional, postponable and deliveries in kind. In place of the office of Agent-General of Reparations, the new plan calls for the establishment of a Bank of International Settlements. The directors of this bank shall be the Governers of the Central Banks of Belgium, France, Great Britain, Germany, Italy, Japan and the United States of America. The character of the directorate is such that there will be no question but that financial, rather than political considerations, will determine policy. It will be the duty of this bank to fund the non-postponable payments as the directorate deems wise. The important functions of the bank will be to receive and transmit the payments under this agreement and to so stabilize the financial transactions involved that there shall be no undue drain upon Germany during periods of crisis or depression. The provision for postponable payments affords Germany much the same protection as was given by the prosperity index of the former plan. A number of outstanding financiers of international reputation have expressed the opinion that the functions of this Bank of

International Settlements will prove of sufficient importance to world trade so that it is likely to become a permanent institution.

EUROPEAN STABILITY AND CANADIAN FOREIGN TRADE.

As an indication of the influence of the re-establishment of European stability upon conditions in Canada, it is interesting to examine the volume and value of the trade of Canada with Europe before the war, during the post-war depression, and at the present time.

Even during the depression, Canadian exports to Europe were approximately 200% greater in volume than before the war, and for the fiscal year ending March 30, 1929, the total value of Canada's exports direct to continental Europe *amounted to 169 million dollars as compared* with 12 million dollars in 1913. By volume, this increase amounts to about 800%, if we assume that prices of exports are approximately 50% higher than before the war. Canadian imports from Europe, on the other hand, dropped about 45% below the 1913 level during the depression, and are now 17.5% greater than the pre-war volume.

In order to make this study complete it was also necessary to examine Canadian exports to Great Britain over the same period, since it was not impossible that a larger proportion of goods was exported to Europe by way of Great Britain *before the war. Goods that are sent to Great* Britain and then re-exported to the continent are reported as being exported to Great Britain. The value of exports to *Great Britain and the* Irish Free State for the fiscal year ending March 30, 1929, amounted to 434 million dollars compared with 170 million dollars in 1913. The increase amounts to about 65% by volume. While this analysis does not throw much light on the relative proportion of Canadian products which move to the continent *via* British ports, yet it does make clear the fact that, though Great Britain remains the greatest export *market for Canadian goods, the rate of increase* in European demand for Canadian products is much more rapid than that of Great Britain.

An *interesting sidelight* on the currents of international trade is secured by the analysis of the volume of Canadian imports from Great Britain. During the fiscal year ending March 30, 1929, the value of these imports amounted to 194 million dollars as compared with 138 million dollars before the war. It is probable that the volume of imports from Great Britain is actually about 5% below the level of 1913.

Statistics reveal the rapid development of Canadian trade with Germany and the Netherlands. Between 1922 and 1929, imports from Germany increased from a value of two million dollars to twenty-one million dollars, and ex*ports from four and one-half million to forty*-seven million dollars. Among Canadian exports to Germany, the most important items during the calendar year of 1928 were: Wheat, \$14,290,000; Rye, \$2,024,000; Flour, \$5,916,000; Zinc, \$1,045,000; and Asbestos, \$1,000,00 . Among the imports there was no single item which was of outstanding importance, but there was a wide variety of imports of textiles, machinery and chemicals. In this connection, there is also the important question as to how much of these products are re-exported to other European countries.

More than half of Canada's total imports *from continental Europe come from France* and Germany. The imports of each of the following items from France exceeded one million dollars in value—walnuts, brandy, wines, furs, silks, dresses and worsteds; but the total value of the items mentioned accounted for less than one-half of the total imports from France. The prosperity of Canada has led to major increases in the value of the imports of luxury products: and on the other hand, the restoration of European buying power is reflected in a steady growth in demand for Canadian products.

The new Government in Queensland which has come into existence after many years of Labour rule *has lost no time in making* drastic changes. The regulations excluding all but trade unionists from State employment have been abolished and the award imposing a 44-hour week in agriculture has been suspended. But much more far-reaching than either of these steps, it has been decided that all the enterprises of the State Trade Department shall be disposed of immediately. The men whom the election of Queensland have placed in office hold the very sound opinion that the business of a Government is to govern, and not to engage in trade. *For 14 years State enterprises of various* kinds have been carried on in Queensland. First came butchers' shops and, in the order given, cattle stations, railway refreshment rooms, an hotel, fish shops, a produce agency and a cannery. The total losses on the ventures, as a whole, are stated by our Brisbane Correspondent to be estimated at no less than £3,700,000. The moral to Governments meddling in trade is obvious.

Economic Notes.

The Late Sir Ganga Ram's Generosity.

The Director of Agriculture, Punjab, writes to us:—In 1925 the late Sir Ganga Ram, Kt., C.I.E., M.V.O., R.B., Lahore, with that generosity for which he is now so well known, handed over to the Punjab Government a sum of Rs. 25,000 for the endowment of a prize to be awarded for a discovery, or an invention, or a new practical method which will tend to increase agricultural production in the Punjab on a paying basis. The property has been vested in the Treasurer of Charitable Endowment for the Punjab and is administered by a Managing Committee. The interest accruing from the property is payable to the Managing Committee. The prize is known as the *Maynard Ganga Ram Prize and is to be awarded* every three years provided a satisfactory achievement is reported to the Managing Committee. It will be of the value of Rs. 3,000 and the competition is open to all throughout the world. Government servants are also eligible to compete for it. Wide publicity was given in 1926 and 1927 to the proposed award by advertisements in newspapers both in India and *abroad, and by other means, and applications* were invited by the 1st January, 1929. The response has, however, been extremely poor and consequently it has been decided to extend the time for submission of the applications to the Director of Agriculture, Punjab, upto 31st December 1929. The Managing Committee reserves the right of withholding or postponing the prize if no achievement of sufficient merit *is submitted. The Punjab with its many* rivers, its fertile soil and warm sun, has great possibilities for agricultural development, which is of the utmost importance as practically the whole population of the province, both urban and rural, depend either directly or indirectly on its agriculture.

Chemical Industry in Baroda.

The Administration Report of the Baroda State for the year 1927-28 states that Mr. K. H. Vakil, who was granted concessions for the working of salt in the Okhamandal Taluka, floated a Joint-Stock Company, the Okha Salt Works, Ltd., with an authorized capital of Rs. 10,00,000 for the manufacture of salt and its by-products. The company is registered at Bombay under the Bombay Joint-Stock Companies Act. It has been able to raise sufficient capital to proceed with the construction of the factory. During the year under report 2,317 tons of salt was exported to Calcutta in two consignments. Having met with encouraging results in these shipments, arrangements are being made to erect more salt pans and increase production.

Rubber Production in India.

From the *Review of Agricultural Operations in India for* 1927-28 we note that rubber is grown mainly in Southern India and Burma; in the year under review the area amounted to 151,841 acres which is 9 per cent above that of the previous year. From the area of 104,694 acres tapped, 26 million lbs. of raw rubber were obtained, as against 23 million lbs. from 101,329 acres in 1926-27. Although the exports of 25.4 million lbs. to foreign countries represented an increase of 10 per cent in quantity, their value (Rs. 260 lakhs) was less by 3 lakhs of rupees than that of the previous year. The investigations carried out at the United Planters' Association's station at Aneikulum again tended to prove (*a*) that trees with latex tubes of below certain average bore are almost invariably poor yielders, and (*b*) that good yielding trees just as invariably possess latex tubes of above this average bore. As the characteristic tube bore can be differentiated early in the life plant, potentially poor yielders can be detected when the plants are still in the nursery. The remarkable success of spraying in one of the worst years for secondary leaf-fall caused by the fungus *Phytophthora* has conclusively proved that the use of a smaller quantity of a very concentrated mixture is not as effective as 3½ to 4 gallons of a more dilute mixture per tree, and that no spraying mixture is cheaper or more effective than Bordeaux mixture. Experiments have been undertaken to determine whether, the change-over-system of tapping favoured in Ceylon has any advantages over the more common straight-out system in which one panel is completely tapped out before starting another.

Emporium for Village Products.

The Report of the Director of Industries, Central Provinces, states that the Emporium for the products of village industries is in charge of the Commercial Agent and continues to exhibit and sell products of village and cottage industries in the province. Articles worth

Rs. 2,011 were sold as against Rs. 1,600 in the previous year. The increase in the sales indicates that the public have now begun to realize its utility. The object of the Emporium has been achieved in a very large measure as in many cases purchases are made by vendors and others direct from manufacturers. As a result of the exhibits sent to the Leipzig Fair and the Indian Art Gallery of the London Institute, business people have enquired of the Indian Trade Publicity Officers if regular supplies of the exhibits on commercial lines can be guaranteed. Such goods as can be regularly supplied are being collected and sent to the Indian Trade Publicity Officer for being advertised in the foreign market.

New Railway Connections for Mysore.

From the revised quinquennial programme of new railway lines contemplated by the South Indian Railway, we note that project estimates are under preparation for the Satyamangalam-Palni line, a distance of 100 miles, which will afford a feeder connection with the Mysore Government Railways and the South Indian Railway. The proposal for a railway line from Mangalore to Malpi will also come under consideration if the proposal for the construction of a harbour at the latter place materializes. The Satyamangalam-Hardnahalli line, a distance of 45 miles, which forms a portion of the Erode-Nanjangud line and the Satyamangalam-Mettupalayam line have also been included in the programme.

Railway Control.

"The proud record" of Indian Railway development was elaborated by Sir Clement Hindley in his recent address at the East India Association. Sir Clement asked whether in the formulation of the coming constitutional changes, any consideration would be paid to the inevitable difficulty arising from the growth of this department of Government, its dimensions in financial and administrative matters rivalling those of the Central Government itself. He alluded to Canada, Germany and Belgium where railway administration was commercialised and made a separate authority, statutorily subordinated to Parliament, Sir Clement did not know whether such a solution would be adopted in India but expressed the opinion that neither the statutory authority nor political parties in India recognized the importance of the problem.

Joint-Stock Companies in Bengal.

During the month of May, 1929, twenty-four new Joint-Stock Companies, limited by shares, with an aggregate authorized capital of Rs. 25,85,00,600 were registered under the Indian Companies Act (VII of 1913) in the Bengal Presidency.

A Traders' Code of Ethics.

A statement of rules governing conduct towards customers has been published by National Printers' Association, notably those of the United States. Such a Code of Ethics has been adopted by a New Zealand firm—Hutcheson, Bocoman and Johnson, Ltd., Wellington—recommending it for adoption by others. Here is the Code:- (1) To test every transaction by the standard of truth and justice. (2) To abstain from over quoting, overcharging, or otherwise abusing the confidence of trustful clients. (3) By pains-taking consistency to earn and retain a reputation as printers whom people can trust with their work without competitive quotations. (4) Never to enter a charge that cannot be proved by competitive evidence in a Court of Justice to be consistent with our habitual charges for the operations and material involved, and with that end in view to gather, and on every proper occasion to produce, full, true and clear proofs of such charges. (5) On no account to pay commission or to offer bribes of any description to stationery clerks, book-keepers, secretaries, or other employees who have printing orders to place. (6) To gather scientifically the cost of every job, and to compile and check as carefully as possible all estimates, refraining always from the equally vicious practice of loading charges on open-priced work, and of cutting prices on competitive quotations. (7) To see one constant ratio of profit. (8) For all these reasons, to avoid price-fixing.

A Fixed Date for Easter.

From a memorandum forwarded to us by Mr. O. N. Solbert, Secretary, National Committee on Calendar Reform, U. S. A., under date 20th July, we note that the capricious way in which Easter jumps over a period of 35 days in our present calendar, coming early in one year and weeks later in the next, has been the cause of much trouble. All human activities, and particularly those of business and industry, that have to be planned according to a fixed programme are seriously hampered by the ever-varying number of days preceding Easter. The present Gregorian calendar adopted in most European countries in 1582 was an onward step in the right direction, but now requires improvement to fill the needs of modern business methods. By request of the International Chamber of Commerce the League of Nations

took up the study of the above question in 1923, and in 1926 requested all countries to form their national committees to study and report on the subject. Various countries have taken action accordingly. The International Chamber of Commerce, at its 5th Congress (Amsterdam, July 1929), passed a resolution urging that the nations who have not yet done so, should form their national committee to *investigate impartially calendar reform in their* respective countries, and that the League of Nations should convene an International Conference to negotiate without further delay a solution to this much-desired improvement. *The greatest first step towards peace on this* earth might well be the establishment of a common measure of time throughout the world.

Topics in the Journals.

Mineral Wealth of India.

Not very long ago, an eminent economist estimated the annual agricultural produce of India at about Rs. 2,000 crores. This huge figure by itself proclaims the pre-eminent place occupied by agriculture in this country and as a matter of fact agriculture has rather eclipsed the mineral production of the country which does not attract as much attention of the publicists as it ought to do. The value of the annual mineral production of India is about Rs. 35 crores which when compared with the Rs. 2,000 crores of agricultural produce fails to make an impression on the mind of an ordinary man. The comparative smallness of mineral production in India does not necessarily mean that it deserves no earnest consideration. In America, England, Continent and Japan mineral production constitutes an important item in the annual national income of the respective countries and in some places it occupies a place of equal importance to agriculture. Germany would not have been what it is to-day but for its extensive mining operations all over Germany and in Alsace-Lorraine regions; the United States would not be so rich to-day but for its iron, mineral oils, gold and silver; a substantial portion of the wealth of Africa consists in its gold and diamond mines; Mexico is rich for its silver mines; Great Britain has immense coal fields in close proximity to iron, and moreover tin is found in abundance; in spite of political disorder and confusion oil wells in Russia are actively being pumped; Persian Gulf and the Caspian Sea regions produce crude oil in abundance. In short, the world outside India, says *Cotton and Finance*, is legitimately proud of its mineral wealth which forms a substantial percentage of the total annual income of each country.

As matters stand at present in India we think we cannot be proud of our mineral production which is a trifle when compared with the other sources of national income. But there need be no despair on that score. It cannot be said that the mineral resources in India are small. A mere perusal of the economic history of India would show that there have been times when precious stones and minerals were found in plenty. We do think that if the annual mineral production in India is not progressive it is due to lack of enterprise. The Geological Survey Department has been in existence for nearly 80 years. The activities of the Department are mainly directed to the completion of a geological map of India. Although the want of necessary staff and funds may be a legitimate plea we very much doubt whether the Department has justified its existence. *Most of the coal and* other mines which are now working are the labours of geological engineers of private capitalists and we should say very frankly that the department has never considered the commercial aspect of their survey. It is true that certain publications are issued by this department but they do not receive adequate publicity and moreover, for want of sufficient staff the department is unable to remain in close touch with the enterprising capitalists. We find that the members of the Legislative Assembly also do not take much interest in this department. There is no reason why the department should not adopt an active policy and render active support to exploit the mineral resources of the country.

The Report on the mineral production of India during 1927 recently published by the Department of Geological Survey of India shows the immense varieties of the minerals produced in India and an examination of the detailed figures ought to enable one to focus the attention in the particular metal or metals, larger production of which modern industrial and economic requirements necessitate. The total value of the mineral production in India during 1927 was £22,917,947 as against £25,819,365 in the previous year or a decrease of 11.2 per cent. The Director states that an increase or decrease in value does not always correspond to a similar variation in output and cannot, therefore, be regarded as an infallible indication of the state of an industry. A decrease in value does not necessarily mean a reduced output or a decline in industry. The Report gives the examples of coal, lead and silver where production increased substantially while there was a fall in the market price. Practically the whole of the decrease in 1927 is attributed to the enormous fall in the market value of the petroleum output the quantity of which had slightly increased.

Coal tops the list of the minerals produced in India. Its production in 1927 was valued at £7,079,852 or a decrease of £894,747 on the previous year. The quantity of output has not at all diminished though [illegible]

fell off owing to larger production after the termination of coal crisis in England. There is perhaps no other mining industry in India than coal in which Indian capitalists have invested a considerable amount of capital, and a number of coal companies really earn good profits. Incentive for increased production can only exist if the output is marketed profitably. Transport charges play a large part in determining the price of coal in a given area. It is frequently complained that while internal prices remain high owing to high transport charges by railway, export trade is hampered by prohibitive freight and insurance charges. Moreover, subsidised African coal competes with Indian coal very severely at times. Therefore, if coal mining industry is to thrive in India cheap transport facilities and some sort of protection against foreign competition are essential.

Next to coal petroleum is the largest item in the mineral production of India. Its value in 1927 amounted to £4,421,468 or a decrease of £2,884,041 on the previous year. Severe cut-throat competition between the various oil companies depressed oil prices considerably and hence the reduction in value while quantity did not diminish. The consumption of mineral oils in India is considerable and indigenous oil supplies only a portion of the total requirements. Except in Burma there is no oil production of importance in India. Indian enterprise is not much interested in oil industry. The oil industry in Burma is mostly in the hands of foreign capitalists but it should not be neglected on that score. Larger production means greater prosperity for the country as a whole.

The foreign demand for Indian manganese ore is very great, especially after the political revolution in Russia and the production in India has increased to meet the demand. It is stated that in the Native State of Mysore there is plenty of manganese ore resources, not yet tapped. There is a shortage of labour in places where manganese ore is found and therefore, with imported labour, it is stated, production becomes irregular. If an organization is created to recruit labour for these areas and if the labourers are paid well there is no doubt that production of manganese ore will considerably increase.

The production of precious metals in India does not rank with that of Africa, or America or Mexico. The production of silver is very small and it is mainly a by-product of the lead mines in Burma. Gold production in India is about 2 per cent of the world's total production, *i.e.*, about £1,650,000 annually, although the requirements of India for non-monetary purposes are many times more. Active gold mining operations are practically confined to the Kolar fields in Mysore. For the production of precious metals and precious stones attention is now being diverted to the Irrawady regions in Burma only.

Other base metals such as iron, copper, zinc, tin, etc., are produced in small quantities only. The annual requirements of tin in India are ever expanding and at present a large quantity is imported for packing purposes. The importance of tin as an essential and economical packing material is recognized and a Tin Exchange in New York is considered to be a modern necessity. While there is bound to be an ever increasing demand for tin it will pay to actively search and work the tin mines of India.

Materials for the manufacture of brick, cement, paint and varnish are said to be found in abundance but for some reason or other maximum use is not made of the available natural resources. An active policy by the Department of Geological Survey supported by a spirit of enterprise by the capitalists should go to increase the mineral wealth of India to no small extent.

Road and Rail.

The decision of the Joint Committee of the Houses of Parliament to report the bills promoted by the Railway Companies for powers to convey merchandise and passengers by road is likely to be followed by the passage of the measures through Parliament at an early date, writes Mr. J. J. Hughes in the *Times* Trade Supplement.

Some recent pronouncements on the position of the railway companies, as railway undertakings, have brought vividly before the public the fact that very considerable changes have taken place in late years in the systems of transport. The situation has frequently been discussed in the columns of this paper and the need for a much wider inquiry than that recently completed in Parliament has been urged for some years. The Council of the Association of British Chambers of Commerce have during the last three years consistently advocated that such an investigation should be undertaken. Their inquiry would have covered investigations into the cost of improving and maintaining our roads: into the system of taxation which provides the moneys to be expended; into the share of this taxation borne by motor vehicles and by railway companies through local rates; and into the effect of unregulated motor haulage on roads upon other regulated and controlled forms of transport.

Such an inquiry might now have been completed and would have proved invaluable in the consideration of the problems of the railway and road authorities at the present time. The Prime Minister has promised an inquiry and its constitution and terms of reference are now anxiously awaited. It is desirable not only that the investigation should cover every possible question that is likely to arise in the immediate future, but that the inquiry should be conducted by a commission or committee representative of all the interests concerned. It should be the aim of such an investigation to lay down the future transport policy of the country; possibly, to fix a minimum expenditure on roads and road improvements; to fix taxation of motor vehicles on a permanent basis and to prescribe regulations for the conduct of motor haulage in competition with other forms of transport for the future and the extent to which such other forms of transport shall in the future contribute towards the upkeep of roads for the benefit of competitive undertakings.

Year by year there is an increase in the number of vehicles on the roads, in the number of passengers, and in the tonnage of merchandise carried, while there is a corresponding decrease in the revenue of the railway companies. The following tables are of interest:—

		Road Expenditure, including expenditure out of loans.	Proportion provided by local rates.
		£	£
1910–1911	..	18,642,331	11,600,000
1911–1912	..	19,040,518	12,100,000
1912–1913	..	19,954,156	12,600,000
1913–1914	..	22,285,685	13,400,000
1920–1921	..	45,630,566	36,400,000
1921–1922	..	52,843,235	35,000,000
1922–1923	..	55,632,521	34,000,000
1923–1924	..	56,430,913	33,800,000

The balance of the expenditure was provided by the Vehicle Tax.

Recent figures of railway receipts show the following decreases, compared with the corresponding period of 1927 :—

		Decrease Week ended June 24, 1928.	Decreases 25 weeks, Jan. 1 to June 24, 1928.
		£	£
L.M.S.R.	..	169,000	1,986,000
L. & N.E.R.	..	71,000	1,404,000
G.W.R.	..	28,000	795,000
Southern	..	13,000	354,000
		281,000	4,530,000

or at the rate of about £9,000,000 per annum.

When the Railway Rates Tribunal fixed the standard rates for merchandise and fares for passengers, the rates of salaries and wages paid, which were included in the railway expenditure, had to be considered, and the amount shown in the hypothetical year or "A" year, as it was termed, formed the basis of the consideration.

Increased Labour Costs.

The increased cost of wages is between £10,000,000, and £11,000,000 per annum in excess of the increase due to the higher rates of pay admittedly due to compensate for the increased cost of living. This extra cost is presumably due to alterations in conditions of service, *e.g.*—eight-hour day, payment for holidays and the guaranteed week. It is probably not capable of absorption or reduction, under the existing conditions, by economies in other directions. The schedules of standard charges fixed by the Railway Rates Tribunal operated on and from the appointed day, January 1, 1928, and the published returns very clearly indicate that the revenue derived from the decreased traffic at the new charges is very much below what is necessary to remunerate the capital invested.

When the railway companies appealed to the National Wages Board under Part IV. of the Railways Act, 1921, for power to make reductions in wages and alterations in conditions of service they were unsuccessful but it now looks as though, failing some concession in this direction, the revenue will not suffice to pay the existing rates of pay under such favourable conditions of labour.

Under Section 58 of the Railways Act, 1921, the Tribunal fix the charges at such a level on an estimated volume of traffic as to pay all expenses and adequately remunerate the capital of amalgamated companies but it is obvious that if those charges are too high and the road rates are lower, the traffic will be diverted to the road.

For this reason the companies promoted Bills to enable them to go after this diverted traffic, but it has never been shown by evidence, either before the Parliamentary Committee or elsewhere, how such power will help them to improve their financial position if they have to maintain the same railway equipment and staff for a depleted traffic and expend further capital on the roads to cut out their competitors.

The diversion of traffic to road transport rather suggests that they will have to move in the direction of obtaining sanction for a large number of exceedingly low exceptional rates for rail-borne merchandise and passengers which it is economical so to carry, but the point exists at which it would be unremunerative to do so whilst wages and maintenance costs are so high.

Railways and Roads.

The advent of the railways as road carriers merely aggravates the existing congestion of roads, and further will tend to increase the cost of road maintenance without any guarantee that the object sought will be achieved. The enormous expenditure on road maintenance is not equitably apportioned, as more than half the cost is borne by local taxation. The railways are carried on under statutory authority, with the consequent legal obligations, whilst the road hauliers, apart from the vehicle tax, have no financial obligation for road maintenance in the districts through which they run. The road haulier has no common carriers' liability, no compulsion as to classification of merchandise or standard charges, and certainly no statutory terms and conditions of carriage.

The Remedy.

There is nothing to show that the passing of the Acts of Parliament giving the railways power to carry by *road will solve the existing difficulties, but matters will* be further complicated by their advent on the road owing to road congestion, to say nothing of the fact that the more traffic the railways carry on the roads the less will be carried by rail. The overhead expense of railways are more or less stable, and unless the wages and salaries cost can be reduced considerably *the traffic remaining to railways must bear a higher* charge. It is obviously the merchandise connected with the basic industries, which will of necessity remain to rail and which, from its very nature, cannot bear a high rail rate, that will be called upon to pay more. It is very questionable whether the railways will show enough profit on road transport owing to keen competition, to balance what they lose on rail.

The remedy would certainly appear to be with the Government, who should, without further delay, set up an impartial committee representative of all interests, particularly the tax-payer, to inquire into the whole question. It is no uncommon thing to see heavy transport on roads which were never intended to bear such traffic and inevitably the local authorities must bear the brunt of the consequent wear and tear. The *railways, when acting as hauliers on the roads, have* two serious competitors the most important being themselves and while it certainly seems just and fair to allow railways to convey merchandise and passengers on roads where it is in the public interest, the real remedy would appear to be legislation, to put all forms of transport on the same level by means of obligations similar to those under which the railways have to conduct their business as carriers in accordance with the Acts of Parliament. In other words, road transport should be restricted under statutory authority in regard to charges, classification and terms and conditions of carriage, in addition to a fair share of the cost of road renewal and maintenance.

Indian Export Trade with America.

For a great number of years exports to the United Kingdom from India constituted nearly 25% of the total exports but since 1925–26, its share has contracted to about 21% of the total. On the other hand, there has been a steady improvement in our exports to Japan *and the U. S. A. To-day the share of these* two countries in our export trade, on an average for the last ten years, can be put down at about 14% and 11% respectively. The U. S. A. has thus become a customer, third in rank in a close race with Japan. The volume of our

trade with Japan is inordinately swelled by the exports of large quantities of pure raw materials, mostly raw cotton. Although many raw materials enter in our export trade with the U. S. A. also, they are not to such a large extent as it is witnessed in our exports to Japan, says *Cotton a .d Finance.*

The value of our exports to the U.S.A. can be estimated normally at about Rs. 35 crores annually. In 1925-26 it reached Rs. 40 crores. The items contributing most to this figure are jute manufactures, raw hides and skins, raw jute, oilseeds, mica and tea. The value of exports of jute manufactures has generally remained varying between Rs. 19 crores and Rs. 22 crores annually according to their quantity and market price. These exports realize in themselves nearly 65% of the value of total exports to the U.S.A. The U.S.A. can claim to take up 35% to 40% of the value of total annual exports of jute goods from India. Practically all the exports of jute goods to the U.S.A. consist not of ready made bags but of cloth. In other words, the Indian product when imported into the U.S.A. undergoes an *additional* process of manufacture before putting into use. There is no reason why this should not be done in India which has a flourishing industry that manufactures jute bags in large *quantities; it is more than capable of meeting the* U.S.A. demand in this respect. Persistent efforts should be made by our manufacturers and dealers to send more and more finished goods rather than either *raw or partially manufactured goods.*

Of late, the value of our annual exports of raw jute to the U.S.A. has varied between Rs. 2½ crores and Rs. 4 crores. It seems that the U.S.A. chafes under the Indian *monopoly of jute and that it makes* purchases of it because it must; it looks upon Indian imports as an inevitable necessity. There is no use in trying to threaten India by attempting to find a substitute *for jute fibre as it* is done now. This sort of attitude is regrettable as it is injurious to the interests of both India and the U.S.A. It would be wise to accept the facts as they are and recognize the supremacy and favoured position of India in the matter of jute production.

We have to offer the same remarks regarding the exports of raw hides and skins also, the value of which at present is reckoned at about Rs. 3½ crores. It is true that our total exports of raw hides and skins are valued at about Rs. 7 crores, but there is an equally large export trade in tanned or dressed hides and skins. We know that these latter are really semi-dressed or tanned articles. If the U. S. A. is disposed to buy from us we can easily satisfy it by supplying it with hides and skins which have undergone the requisite degree of tanning. Our local tanning industry is fully capable of effecting the desired improvement in the quality of dressed hides and skins.

The purchases of Indian lac by the U.S.A. are practically as much as those of either raw hides and skins or raw jute. The U.S.A. is the biggest individual customer for Indian lac, its participation at times being as great as 55% of the total. Though it thus buys more than half of the Indian exports in lac, it is well to remember that its takings are mainly confined to shellac, while those of either seed or stick lac are meagre. The total quantity of Indian lac exports has always been on the increase, but owing to fall in prices their values have been diminishing. The U.S.A. has thus substantially profited by the lower prices for the Indian product.

In the matter of the U.S.A. purchases of oilseeds the position is not as satisfactory as we would desire. Their value has not exceeded a crore of rupees, while the aggregate value of total Indian exports in oilseeds varies from Rs. 24 crores to Rs. 30 crores. The share of the U.S.A. at present is thus not more than 4%. The smallness of the share of the U.S.A. is explained by the fact that its dealings in India are confined to castor seeds only, while those varieties of seeds that bulk largely in the Indian export trade are groundnut, linseed and rapeseed. The value of total oilseeds imports into the U.S.A. in normal years ranges about \$70 million (Rs. 192½ millions), the principal items of imports being flaxseed and copra. These statistics further show that the U.S.A. imports castor seeds exclusively from India, so that the only thing to be considered is whether we can hope to meet the U.S.A. demand for flaxseed and copra. We fear nothing can be done as the Indian exports of these are practically nil, though it is significant to note that in pre-war years the exports of copra from India attained a value of over a crore of rupees. The subsequent decline has been, no doubt, due to the greater utilization of copra by the newly sprung-up vegetable ghee industry. Though the extinction of a considerable export trade in copra is thus attributable to the new demand in the country, it should be borne in mind that the Indian output of copra can be greatly stimulated so as to be in a position to export in a considerable quantity if the U.S.A. demand can make itself steadily felt.

The present situation in oilseeds trade is that those commodities which India exports in large quantities *are not utilized to any great extent in the U.S.A. and* the articles for which the U.S.A. has the greatest need are not produced in India sufficiently enough to leave an exportable surplus.

The takings of tea by the U.S.A. from India give rise to a peculiar situation. Ordinarily the U.S.A. annually buys Indian tea worth no more than half a crore of rupees, while the total exports of tea from *India average* Rs. 30 crores. *The total imports of tea* into the U.S.A. are valued at about \$30 million (Rs. 75 millions). Thus the U.S.A. buys from India only 5% of its total imports of tea. Yet this is only *apparent as the share of India is actually greater.* The U.S.A. imports her requirements of tea from 25% to 30% from the United Kingdom, about 20% from Ceylon as much from Japan, and about 7% from China. It *is well known that a greater part of tea that finds its* way from the United Kingdom to the U.S.A. is really Indian tea, the United Kingdom merely acting as an intermediary. Though we have the satisfaction of *knowing that the U.S.A. purchases a really much* larger quantity of Indian tea than is apparently indicated by the Indian statistics, the indirect way in which the sales of Indian tea are effected in London is *due to the fact that London* offices own a large number of tea estates in India.

There is nothing noteworthy about the exports of raw wool and wool manufactures which are of small value. *But we can hope for some improvement in* trade in spices, the exports of which of late have risen to about Rs. 30 lakhs.

The United States of America and India are being brought closer together every day by the increasing tourist traffic, and as the American comes to know more and more about the resources of India there is no doubt that before long India will considerably increase her trade with America. The appointment of an Indian Trade Commissioner in the U.S.A. would do much to watch and protect Indian interests in that

country and thereby further aid good trade relations with India.

Indian Public Service Commission.

Sir P. S. Sivaswamy Aiyar, K.C.S.I., writing in the weekly *New India* remarks that the memorandum of Mr. Barker, the Chairman of the Indian Public Service Commission, on the working and the powers and functions of the Commission, is a very comprehensive and masterly survey of the whole subject, and must command the respectful attention of the Indian Statutory Commission and the Government. The exclusion of political and other corrupt influences in the recruitment of the public services is now generally recognized as essential to the purity and efficiency of the public administration.

This object has been sought to be achieved in the Dominions by transferring the power of recruitment from the hands of Ministers to a Statutory Public Service Commission, independent of the Executive and freed from any temptations to subserviency to Government. Mr. Barker points out that the Public Service Commission, as now constituted by the Government of India, has not been vested with the powers which it is essential that that body should possess, if it is to achieve the object with which such Commissions have generally been constituted. He considers it essential that the Commission should have absolute authority for determining the method of recruitment whether by competitive examination or selection or partly by one and partly by the other; that it should have the power to decide the preliminary qualifications for admission to the competitive examinations, the subjects of examinations and the conduct of examinations; and that where recruitment is made by selection, the Commission should have the power of determining the qualifications of candidates and should have a free hand in selecting them. With regard to the promotion of officers, he thinks that it should be entrusted to committees on which a member of the Public Service Commission should be entitled to sit. We do not know whether Mr. Barker has laid down in his memorandum any principles for the regulation of promotion. The principle usually followed by the Government before the introduction of the constitutional reforms was that promotion should be regulated by seniority tempered by merit. In the case of promotions from grade to grade in a class of appointments containing several grades, promotion generally went by seniority. The same principle of automatic promotion is now secured in many cases by a time scale of increments. In the case of promotion from one class of appointments to another class involving higher and larger responsibilities, the usual rule was to lay more stress upon merit or efficiency than upon mere seniority. An officer's claims to promotion were never allowed to be over-ridden by communal considerations. It has, however, become the pronounced policy of the Madras Government, and possibly of other Governments dominated by communal Ministries, that communal considerations should be taken into account not merely in initial recruitments but also in the matter of subsequent promotions at every step of the official ladder. It is essential to lay it down as a fundamental rule of policy that the claims of no officer to promotion shall be prejudiced or improved by the fact that he is a member of a particular community. While, under an efficient bureaucratic Government, promotions should ordinarily be left in the hands of the head of the department or the superior officers, the development of communalism in this country lends weight to Mr. Barker's suggestion, that the power of dealing with promotions should be entrusted to committees on which a member of the Public Service Commission should be entitled to sit. It would probably be sufficient if, instead of allowing all promotions to be made by a Committee, the general principles were laid down, and appeals on the ground of a departure from the general rules were referred to committees of the kind proposed by Mr. Barker. Appeals against the exercise of disciplinary powers against an officer should also be referred to the Public Service Commission for their opinion and advice.

Mr. Barker's remarks upon the quality of the candidates who have appeared for the I.C.S. examination held in India bear gratifying testimony to the excellent material available for recruitment. His suggestion for the closure of the London door of entry to the I.C.S. to Indians may perhaps not commend itself to all, but there is a great deal to be said in favour of his proposal, which is based upon a well-balanced consideration of all the arguments on one side and the other. If Mr. Barker's recommendations on this subject are accepted by the Government in their entirety, no harm will result from the proposal to close the London door.

Mr. Barker's proposal for an investigation of the circumstances which have led to a deficiency of Indian candidates for the Police and Forest Services merits acceptance. It will probably be found that faults in the system of selection to the All-India Police and Forest Services and in the treatment accorded to the Indian recruits of officers' grades are responsible for the paucity of suitable material.

One of the most valuable portions of Mr. Barker's memorandum is that in which he discusses the advisability of establishing Provincial Service Commissions. His arguments against the establishment of such Commissions must carry conviction to any person, acquainted with the special conditions of this country. This idea was put forward by the Lee Commission on the Public Services. The Lee Commission proceeded mainly upon the doctrinaire assumption that the Government which exercises control over any service must also have the power of recruitment to that service. The Government of India Act of 1919 contemplated the exercise by the Indian Public Service Commission of functions in respect of the public services throughout India generally, and there is no evidence of any intention to restrict their jurisdiction to the All-India or Central services. The services classified as Provincial are of such great importance for the maintenance of the efficiency and tone of the administration and a more or less uniform standard of efficiency throughout India, that it would be most unwise to relegate them to the control of Local Service Commissions. The tendency of communalism to degrade the standard of admission to the public services is illustrated by a reference to the notifications of the Madras Government in 1927, laying down the Secondary School Leaving Certificate as the standard of admission for posts in the superior service of the Government, except where *otherwise expressly provided*, and by a notification of the same Government laying down the same qualification for the appointment of Police Inspectors in the City of Madras on a salary rising from Rs. 100 per mensem to start with. There may not be much harm in the appointment of Provincial Service Commissions for the purpose of controlling the recruitment of the

subordinate services. The idea that the recruitment of the Provincial services by the Indian Public Service Commission is inconsistent with the pure milk of Provincial Autonomy rests upon theory and sentiment rather than upon solid practical reasons. Even under a system of Federal Government the constituent Provinces do not enjoy unrestricted and unqualified autonomy. The extent of the restrictions to be imposed is a question of degree, dependent upon the special conditions of each country.

The appointment of the Auditor-General, for instance, is one which should be rendered independent of the Local Governments. If in the case of self-governing Colonies, it has been found essential to guard against the abuse of patronage by the establishment of Public Service Commissions, there are stronger reasons in this country for the establishment of a strong Public Service Commission. There are special reasons why the Public Service Commission in India should be independent of the control of the Provincial Governments which have displayed a strong communal spirit. Recruitment to the provincial services must be entrusted to the Indian Public Service Commission. The arguments of Mr. Barker against the establishment of Local Service Commissions for recruitment to the provincial services are of such overwhelming cogency that it is needless to add anything to what he has said.

One cannot help coming to the conclusion that the Government of India have themselves departed from the high ideals which were formulated by themselves and by Parliament at the time of the introduction of the Constitutional Reforms of 1919, and that they have failed to utilize the services of the Public Service Commission before coming to decision on matters in which the Commission as an expert body should have been consulted. Can it be the case that the Government of India have also made a weak-kneed surrender of principles to communalism for political reasons ?

Mr. Barker has rendered an immense public service to the country in placing his views clearly and unequivocally before the Statutory Commission, and if his views are disregarded, the Government of India must be held to be guilty of sinning against the light.

What does National Prosperity Depend on.

National prosperity does not, of course, depend on such things as the level of prices or the budgetary surplus or the rate of income-tax, as is sometimes supposed. National prosperity on the material side depends, says *The Economist*, upon the real national income per head of the population, and may be represented for any year by the expression (A + B)/C, where A is the net output of goods and services in the year, B is the net real income accruing in the year from foreign investment, and C is the number of inhabitants of the country under consideration.

Experts will not require any explanation of this statement. For other readers the matter may be illumined by the following extract from Sir Josiah Stamp's "Wealth and Taxable Capacity":—

"I am most anxious that the conception of national income should be a living and real one to you all, and not merely a mass of figures, so may I put to you a homely and simple and, therefore, perhaps, inexact illustration, which may serve to make the matter more graphic? To many of you the idea will be fairly familiar; to others, perhaps, not so; but if you will really seize it, it will be one key for many other mysteries of production and exchange, and particularly of currency and the payment of war indebtedness. Will you suppose that all the services and goods that are produced by us as a community in a year are all piled in the centre of this room in a great miscellaneous heap. Every one of you, in the work that you do, is putting that work there. It includes the boots and the clothes that are made, the loaves that are baked, the sheep that are reared, the sermons that are preached, the songs that are sung, the physician's advice, the pilot's skill, the banker's knowledge, the business-man's services of organization, the crossing sweeper's service, indeed, everything that can be given by us whereby we have a claim upon the work of our fellow-men who are contributing to the heap, including the services of those who have helped to make the heap larger than it would or could be if we started afresh without the assistance of piled-up capital goods saved from the heaps of former years. Let it be supposed that we have no such thing as money, but that for each contribution we have made to the heap there is given to us a "labour or services ticket" with a claim to draw something out of the heap in return—if you like, for the moment, equivalent in its labour or equivalent in its skill or its sacrifice to what we have put in. The people who have refrained from an earlier consumption on the faith of their title to later consumption somewhat larger in extent, also have their title to the heap. Now the total of tickets giving titles to the heap will exactly equal the mass in the heap, and when we have all drawn out what we want of other people's products and handed in our tickets, the heap will have vanished. It is true that when we present our tickets we shall, perhaps, in our demands for a particular thing that is in the heap, exceed the actual supply; in other cases we may ask less. There may be fewer loaves put upon it than we want, and, perhaps more servants and third-rate music hall songs than there is a demand for but these are questions of bad anticipation of demand, and we must rule them out for the moment. The point is now that we cannot, as a whole, get more out of the heap than we have put into it."

To carry Sir Josiah Stamp's illustration a step further, "the national heap" which he invites us to envisage represents the year's gross output of goods and services. Of this, however, there must be set aside a part to pay for imports of raw materials, and another part for the maintenance of plant and other forms of capital including working capital. It is only the residue which is available for consumption (including exchange for foreign goods and services) and savings (including lending to foreigners). This residue is represented by the letter A of the expression (A+B)/C. Some of the contributors to the heap, however, are inhabitants of foreign countries, who are entitled to a share of it, not in return for work but as lenders of capital goods which have contributed to its production. On the other hand, some of our people are similarly entitled to shares of foreign heaps. The balance of what is due in the year from foreign heaps to us over what is due from our heap to foreigners is represented by the letter B of the expression (A+B)/C. A+B together represent the year's total supply of goods and service available for the satisfaction of the wants of the inhabitants of the United Kingdom. The number of these inhabitants is represented by C. National prosperity obviously depends on the ratio of the available supply to the number of people amongst whom it has to go round, that is to say, on (A+B)/C. As A+B is the real national income, *i.e.*, the national income in

terms of goods and services, the money value of A+B being the national income in terms of money, national prosperity is seen to depend upon the real national income per head of the population.

Books in Brief.

Short Reviews of Recent Books.

A History of the Jewish People.

By Max L. Margolis and Alexander Marx. Published by the Jewish Publication Society of America, Philadelphia.

According to a note published on the jacket of this book, we observe that it has been issued at the desire of the late Rosetta M. Ulman of Williamsport, Pennsylvania, from funds contributed from her estate by her executor Mr. Abraham Erlanger. It is added that Miss Ulman wished the publication of this volume "for the furtherance of truth and equity". Miss Ulman could not better utilize her wealth than by spending a part of it on a publication of the kind she has helped to issue from the Press. The authors deserve to be warmly congratulated on the production of their joint work. It is timely, full, accurate and thoroughly readable. It is also, we should add, quite up-to-date. As we write this review Reuter announces the anti-Jewish riots over the Wailing Wall question. It would, therefore, seem appropriate that a publication like this should have a wide circulation. It replaces to a large extent Graetz's famous *History of the Jews* and is to be welcomed as a serious attempt to present in a comprehensive form the history of a nation which has—barring perhaps the Hindus—the longest continuous history in the world. Though suffering has been the badge of the Jewish nation from first to last, the fact they have withstood it all—in the mass, we mean—shows their inherent vitality. The story of such a nation, so historic and so widespread, cannot but prove interesting and instructive. The authors have done ample justice to their task. A notable fact about the book is that its original draft was finished, by the author whose name appears first in the head-note above while he was in Palestine. The work will long be a standard authority on the subject and as such ought to find a place in every Library the world over.

India on Trial.

By J. E. Woolacott, formerly Correspondent of the "Times" at Delhi and Simla. Messrs. Macmillan & Co., Ltd., London and Bombay. 10*sh*. net.

Mr. Woolacott is a publicist. His book is what might be called a "fighting book"—it invites difference of opinion, comment, criticism and challenge at *almost every point and on almost every page of it.* It is written to justify British work in India and to write down the "Swarajists" who are evidently anathema to him. No wonder a work like this, written partly in a carping spirit, and partly in a spirit of self-adulation, should be marked out for special attention by the reviewers in the daily press of this country. There are, however, parts of the book that deserve study—at least from the point of view of a counter-critic. That Mr. Woolacott is one-sided and represents but the popular Anglo-Indian view in economic matters cannot, for instance, be gainsaid. While Mr. Woolacott may think it right in quoting Earl Winterton for supporting his thesis on "A Mythical India", there are volumes of Factory Records, published by the Oxford University Press which, if he diligently read, would tell him a different tale. Let that pass. His study of the "Causes of Indian Poverty" is a re-hash of the views of different writers, written avowedly to support the conclusions of the Royal Commission on Agriculture. If Mr. Woolacott cultivated the habit of a cautious propagandist, he would do greater good not only to his own country but also to what he might not, perhaps, object to call his "adopted country". The irritation caused by a writer like him is too manifest for words. It is easy to claim everything for Western culture and the civilizing character of Christianity. But if Mr. Woolacott is reflected a little—like Mr. Hoyland in his recent article in the *Nineteenth Century and After*—he would see that the facts are quite otherwise. If people in this country start welfare work, surely it need not be set down to the example provided by "Christian Missions"; it may be a case of mere organization in self-defence, conscious or unconscious. An intensely national or religious people—like the Hindus and the Muhammadans—are not likely to yield what they deem their own culture without at least a moral fight. The instinct of self-preservation is strong in them and that instinct is answerable for a great deal more than has been allowed by superficial observers like Mr. Woolacott. We have neither the space nor the inclination to critically examine Mr. Woolacott's book, which is replete with one-sided views. His chapter on "Passive Resistance" reads so unreal in the light of the Hunter Report and the Despatch of the Government of India that followed it that it would be vain indeed to seek to correct him. To quote Justice McCardie against the Hunter Report may look clever but is hardly convincing. It is this defect in the book—the unwillingness to see facts in the face—that makes so much of it of little value. All the same it is good that there are writers like Mr. Woolacott, for they show which way opposition of one kind is working against the genuine interests of all—Indian and European—in this country. If only writers like Mr. Woolacott wrote not for effect, not for propagandizing the case against India, and not for putting down Indian claims and aspirations, but for the permanent good of those living in this country, there would be less of wild talk from both sides and more of a genuine desire to see progress achieved. It is Mr. Woolacott and those like him who help to create militant "Swarajists" in this country. This country can have little hope so long as there are critics of the Woolacott type. Little wonder that there are open cries for the suppression of books of this kind as a protest against the suppression of books like that of Dr. Sunderland.

Mr. Woolacott may be right in suggesting that "our presence" is needed in India for its progress and prosperity but the means he has chosen to advocate this suggestion leaves much to be desired. If he is not beyond improvement yet, he may try a new method, the method of a friendly, conciliatory and sympathetic constructive critic who has regard for both sides of a question. The saying *Magna est veritas, et prevali bit* need not necessarily be reduced to the proverbial wag's *magna est veritas et preval a bit.*

Great Britain from Adam Smith to the Present Day.

By C. R. Fay, Professor of Economic History at the University of Toronto, Canada. Published by Messrs. Longmans Green & Co., Madras, Bombay and London. Price 12*sh.* 6*d.*

Those who have read Mr. Fay's book on *Co-partnership in Industry* know what to expect in this work. It is as comprehensive and scholarly a study of England since the days of Adam Smith to the present day as can well be conceived. It is not a dull, dry-as-dust book, made up of mere statistical charts and writings explanatory of them but a real economic and social survey, conceived in the grand style. In parts it is brilliant; often suggestive; and not infrequently entertaining to a degree. As a serious study it will be reckoned a contribution to the economic and social study of the period to which it relates. We say this deliberately. While we know many good books that give us the political history of the period chosen by Mr. Fay for his study, there has appeared no work, so far as we can recollect—and our Economic Library is a fairly full one—one that deals with the economic and social aspects on the scale on which Mr. Fay has chosen to draw the picture for us. And he has done it with consummate skill. As becomes a scholar of repute, he treats the period chosen in a systematic manner. In the first part, fiscal and financial, the financial policy followed by successive ministers from Walpole to Chamberlain is set down; in the second, trade and transport, he discusses the importance of the improved means of communication; in the third, agriculture and industry, he reviews the improved methods of agriculture, and of the advances made in mechanical invention, iron and steel manufacture and in the textile industry; and in the fourth, life and labour, he marshalls the far-reaching effects of the development of industrialism on the life and thought of the people of Great Britain. It is the last of these parts that has attracted our special attention and has appealed to us most. In it, Mr. Fay shines to great advantage. Everyone interested in co-operation in this country should read the chapter on Friendly Societies and the Co-operative Movement as sketched out by him in this part of his work. It is a thorough-going study of the progress of co-operation in England, from which we have much to learn and adopt for our own good.

The Last Battle of Panipat.

Casi Raja Pundit's Persian account translated by Lieut.-Col. J. Brown, edited by H.G. Rawlinson, I.C.S. Published by the Oxford University Press, London, Bombay and Madras. Price Rs. 2.

Professor Rawlinson deserves to be congratulated on this eminently satisfactory edition of Col. Brown's translation of Pundit Casi Raja's account of the last battle of Panipat, which proved so eventful in its consequences to the Mahrattas in Northern India. Casi Raja writes as an avowed Northern Indian, though a Deccani by birth. He was in the service of the Vazir of Oudh and wrote his account as an eye-witness of the great battle. His adverse views of the tactics displayed by Sadasiva Rao Bhao are sharply criticized by Professor Rawlinson, and there is much to be said in favour of the defence set up by the worthy Professor. Sadasiva Rao Bhao was both a soldier and a leader of forces. Casi Pundit hardly knew how to appreciate the military talents of the Bhao. Casi Raja, however, is not to be blamed; for he was not himself a soldier. Sadasiva Rao Bhao may have had his faults but he was of the stuff that heroes are made of. He died a brave soldier's death, refusing quarter. Professor Rawlinson ends his estimate of him thus: "The Bhao Saheb did not commit a tithe of the blunders of both Wellington and Napoleon in the Waterloo Campaign. He lost not because he was a bad general, but because his opponent was a better one." The chief merit of Casi Raja's account is its simple impressiveness. It brings out in bold relief the splendid valour displayed by the Mahratta forces at Panipat against the invading hosts under Abdali.

Professor Rawlinson has printed in an Appendix Nana Farnavis' account of the battle described by Casi Raja. This account is set down as translated by Lieut.-Col. John Briggs in 1828. It is chiefly valuable for the light it throws on the nature of the conflict in which the Bhao was engaged. Though a mere boy at the time, Nana Farnavis had a vivid recollection of the great battle and he sets down how the Bhao was deserted, even by those, who had erstwhile promised to stand by his side. So thoroughly indeed was he deserted that "not one knew how he fell, or what became of that person who so lately was the object of such great veneration."

The accounts are throughout briefly annotated and illustrated by two plans of the battle and a likeness of Sadasiva Rao Bhao on horse-back on the battle-field—taken from the Purasnis Collection at Satara.

Man and His Forerunners.

By Professor H. V. Buttel-Reepen, D.Phil. (Zool.) Messrs. Longmans Green & Co., Paternoster Row, London.

Though styled a translation, this is really a new and more up-to-date account, by Mr. A. G. Thacker, A.R.C.S. (London), of Professor Buttel Reepen's monograph on the subject of *Man and His Forerunners.* That it is quite up-to-date will be seen from the fact that it incorporates accounts of the more recent discoveries in Suffolk and Sussex. The great value of the publication lies in the fact that it furnishes a complete summary of the geological evidence bearing upon the origin of man. Since Quatrefages summed up in a lucid and readable manner in his *Human Species* (in the International Science Series) the differing theories of the Polygenists and Monogenists, fresh evidence has come to light and unsettled the settled question. As Mr. Thacker rightly observes there has recently been a resuscitation in a new form of the old controversy concerning the single or multiple origin of modern races. The new continental theories on the subject are set forth by him in Chapter VI of this book. It is, perhaps, the most arresting chapter in it and deserves to be read first-hand and cannot be retailed here. Mr. Thacker deserves to be congratulated on the very readable book he has produced. Its value is greatly enhanced by a frontispiece (of the *Eoanthropus Dawsoni*) and 70 figures in the text and 3 tables (theoretical section through the earth's crust, stages of pre-historic culture and pleistocene or glacial period). Students of Anthropology in India would do well to read this handy little book, which will long be reckoned the latest and the best on the evidence relating to the antiquity of man in this world.

Survey of India: General Report.

Survey of India Office, Calcutta. Price Re. 1 or 1s. 9d.

This report covers work achieved during the period from 1st October 1927 to 30th September 1928. Amongst the more notable events of the survey year, the following may be cited :—The Bengal Government has set a lead to all India by initiating a 16-inch air survey of the Malda district for settlement purposes and has placed the contract with the Air Survey Company. The replacement of terrestrial method for cadastral survey by air photography is a definite step forward in the science of survey. A club in New Delhi was founded with the objects of encouraging and assisting Himalayan travel and exploration, and extending knowledge of Himalayas. Captain G. Bomford, R.E., attended the International Conference on Wireless Longitudes at Leyden, which met to discuss the results of the longitude observations taken at 50 observatories all over the world, in which he participated as an observer at Dehra Dun. Incidentally it might be noted that topographical surveys were taken in Chitaldrug District. Large surveys of private estates in Kadur and Chikmagalur were also achieved. As usual the report is well illustrated with maps and photographs indicating the work of the year.

International Statistical Year-Book.

League of Nations, Geneva.

The third edition of the *International Statistical Year-Book* appeared at the beginning of May. The first edition was one of the documents of the World Economic Conference and, owing to the large demand, had to be reprinted. In the present volume. the majority of the statistics are brought up to the end of 1927 or 1928. The Year-Book gives in a concise form the more important categories of statistics concerning area and population, including migration movements; live-stock; production of cereals, textiles, ores and minerals, artificial fertilizers, oilseeds, etc.; international trade by value and weight; shipping, maritime freights; railways and motor vehicles; public finance (summary of budget accounts, analysis of revenue and expenditure, public debt, etc.); monetary statistics (note circulation, gold and foreign assets reserves, savings deposits, commercial bank deposits, etc.); rates of exchange; wholesale and retail prices, etc.

The majority of the sources used are official national statistics, statistical year-books, annual reports of public health departments, census returns, budget documents, Lloyd's Register, etc. For all the agricultural statistics the League is indebted to the International Institute in Rome.

The statistics on migration movements, unemployment and retail prices have been supplied in whole or in part by the International Labour Office.

Mysore Agricultural Calendar, 1929.

Department of Agriculture, Bangalore. 2 As.

This hardy annual is, as usual, full of valuable information calculated to improve agricultural methods. Mr. K. H. Ramayya, B.A., the Registrar of Co-operative Societies, has contributed a note on *Co-operative Loans and Co-operative Sales Societies* for helping ryots. This is followed by Dr. Kunhi Kannan's *Coffee Borers*, and by Dr. B. Narasimha Iyengar's *Some Artificial Manures*. The twelve monthly agricultural notes for the ryot render expert advice to the ryots in ploughing, seeding, manuring, etc. The publication is priced low enough for all to buy. Copies of this as well as the vernacular editions must be broadcasted in every village in Mysore.

Facilities for Historical Research.

A recent issue of the *Bombay Government Gazette* contains the revised rules relating to access by private persons to the records in the Secretariat Record Office. These rules are applicable only to cases where documents are required for *bona fide historical research*. The Record Office is open daily, excepting Sundays and holidays, the hours of admission being 11 A.M. to 5 P.M., on Saturdays 11 A.M. to 2 P.M. Persons wishing to examine the records must apply in writing to the Chief Secretary to Government, stating their occupation, address and qualifications and the object with which they wish to examine the records. Government reserves to itself the right to refuse or to modify any application. Unpublished records will not be placed at the disposal of novelists, who cannot be regarded as coming within the description of serious historical students. Inspection is allowed only in the Record Office itself and permission must be obtained to take copies and extracts and to make use of information gained from the records. It is a condition of the grant of permission to examine the records that any person who publishes a work based on those records should deposit one copy of his work in the Record Office as soon as it is published. Every person is required to sign an undertaking to that effect before being admitted to examine the records.

Persons not wishing or being unable themselves to examine the records should apply to the Director of Information, in charge of the Record Office, who will, if possible, arrange for the search to be undertaken at the cost of the applicant. A fee of Rs. 5 for each day will be charged in every case for search and inspection when permitted by Government. In no case will less than Rs. 5 be charged for search or inspection. The search will be conducted by clerks in the Department of the Secretariat concerned. Each applicant will be required to pay a deposit of Rs. 20 before search and inspection of records are allowed.

For every copy of a document taken from the records a fee of one rupee will be charged as a comparing fee. Copying fees at the rate of two annas for every 100 words or fraction of 100 words will be charged, but if the original is in a tabular form, double this rate will be charged. No search, inspection or copies of documents will be given in cases where it is considered that such a course would be prejudicial to the interests of Government. In no case will copies of Government Resolutions be given.

Further particulars regarding search, inspection of records, etc., will be found in Government notification published at pages 584-586 of the *Bombay Government Gazette*, Part I of 11th April.

Lord Carmichael of Skirling.

Hodder & Stoughton announce for publication in the autumn *Lord Carmichael of Skirling*, a Memoir by various friends and edited by his wife with the assistance of John Buchan. Thomas Carmichael was one of the best known and best loved figures in Scotland. Previous to the Great War he belonged to the brilliant group of Liberals who surrounded Lord Rosebery. He was appointed first Governor of Bengal on the momentous occasion when the capital was moved to Delhi. Throughout his governorships of Victoria, Madras and Bengal he did valuable work in Imperial administration. He was also one of the most noted Collectors of his time. In this memoir which Lady Carmichael has prepared, she has had the assistance among others, of the Viscountess Novar, Mr. W. A. Archbold, Sir David Orme Masson and Dr. Borenius. Fully illustrated 21/- net.

The Mysore Economic Journal

A Monthly Periodical devoted to the Discussion
of all Economic Topics of Interest

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The Indian Labour Commission.

By The Editor.

By the time the October number of this *Journal* issues from the Press (Tuesday, the 22nd October), the Royal Commission on Labour in India will have begun its sittings at Karachi. It is therefore meet that we should take opportunity in this number to say a few words about the Commission and the work that it has, under the terms of reference set down for it, outlined for itself. The personnel of the Commission is a strong and representative one. Besides the Chairman, there are twelve members on it. The Chairman, Mr. J. H. Whitley, was well known as Chairman of Committees and later as the Speaker of the House of Commons. His tact and pleasant vein of dry humour are his strong points. Of his work in the field of conciliation between Labour and Capital, it is hardly necessary to say much. He was the Chairman of the Committee of the Ministry of Reconstruction on relations between employers and employed which issued its Report in March 1917, in which the scheme of National Industrial Councils and the like first took shape. He presided over the Committee of Industrial Problems and the "Whitley Report" is a foundation of various reconstruction ideas. He is a believer in a new and happier "Industrial Age", the result of reconciliation between Labour and Capital. Writing in 1918, when the War was still raging, he uttered words that deserve to be recalled. "In the application of science and in the machinery of organization," he wrote, "great strides have been made during the war; but there are dry bones without a solution of the problem of the human factor. The cause for which the war has been fought, and the tragic sacrifices it has involved, give a supreme importance to the human relationships in industry. Liberty will have been won, not by "man-power" but by "spirit-power". Liberty itself is only a foundation; to build on it a worthy and enduring fabric needs the same "spirit-power"". He then added: "With a new sense of human values, we may hope to link all the workers in industry in a frank partnership for the common good. The safety of the State calls for the fullest development in a united purpose of all gifts of brain and hand." Mark the words, "a frank partnership for the common good". That is what is required in India just now in the economic as in the political field. If Production is to increase, if Labour is to get its own, if Capital is to do its utmost best for its own clientele, and if the "safety of the State" is to be preserved, the much desired-for co-operation between "brain" and "hand" is necessary. It is the recognition of the need of this "united purpose" that is urgently called for in this country as elsewhere in the industrial domain. In the Chairman of the Royal Commission on Labour in India, there has been secured for its success a firm believer in conciliation as a remedy and one too blessed with the high judicial temperament that made him so unqualified a success as the Speaker of the House of Commons. A Commission led by such a person, to say nothing else, deserves a chance. The marked estrangement that has occurred between the people and the Government in recent months has unfortunately diverted attention from the Commission and made some people suggest a line of action against it which, if the normal conditions prevailed, nobody with an adequate conception of the needs of this country, would, for a moment, dream of. Such are the vicissitudes of the political situation in India that even such action has been thought of as desirable! Apart from the responsibility of the Government in a matter of this nature which is great, it behoves those interested in sound industrial development, to take a longer and a more far-seeing

view of things. Its appeal being purely economic, we would suggest a calm and judicial attitude towards the Commission. Whatever changes might or might not occur in the political domain, *a change is desirable in the industrial* field and that much desired-for change is closely knit up with the labours of the Commission. It is for this reason that we plead for tolerance towards it and the arduous work that lies before it. Where the well-being of millions of people (there were in 1926 over one and a half millions of men working in different industries in British India and the Indian States—1,518,391 in British India and 68,866 in the Indian States, making a total of 1,687,257 for both) is involved, the need for cool and collected action seems eminently called for. They have been suffering in diverse ways for long and when an opportunity offers itself to better their lot, extraneous influences of any kind, however patriotic they might be deemed from one point of view, ought not to be allowed to prevail. On the other hand, every attempt should, in our opinion, be made to *fully elucidate* their position and help in the adoption of a policy that will better their status and earning powers, not merely as workers but also as human beings. If nothing else, the spirit of common humanity requires this of every thinking person in India.

The terms of reference, published some time back, are fairly comprehensive and do not, so far as we can see, leave out anything that might be investigated by the Commission or usefully reported upon by it. They are:—

"To inquire into and report on the existing conditions of labour in industrial undertakings and plantations in British India on the health, *efficiency and standard of living of the workers,* and on the relations between employers and employed and to make recommendations."

It will be seen that the scope of the Commission's inquiries will extend to the condition of labour (*1*) in industrial undertakings, this term being defined as in Article I of the Washintgon House Convention, (which includes mining and quarrying of every kind, manufacturing industries of every sort not excluding ship-building and transmission of electricity, construction of buildings and public utility concerns and transportation of men and goods of all descriptions, except transport by hand); and (2) on plantations. Of course, the inquiries are expressly limited to British India, but as the schedule issued under the authority of the Chairman of the Commission refers to the effect of the differences in law and administration in Indian States and British India, it might be inferred that the evidence, if any, available from Indian States will not, as such, be excluded by the Commission. It will be remembered that the specific question was raised that Indian States must be included in the itinerary of the Commission and the *reply* was vouchsafed that the matter would be considered. It is to be hoped that any evidence available or tendered from Indian States, whether from employers or employed or from the States as such will be admitted by the Commission and given due consideration. As all parties concerned are bound to gain by such an arrangement, we trust the suggestion will be given due weight and adopted. There is the greater reason why this should be done as other Royal Commissions have done so in the past and the labours of this particular Commission are likely to prove of value to people in the Indian States as well.

In place of the usual questionnaire, the Chairman of the Commission has issued a schedule of subjects, which, it is stated, is not an exhaustive one. The subjects included in it fall under the following eighteen heads:—(i) Recruitment, (*ii*) Staff Organization, (*iii*) Housing, (iv) Health, (v) Welfare (other than Health and Housing but including Education), (vi) Education, (vii) Safety, (viii) Workmen's Compensation, (ix) Hours, (x) Special Questions relating to Women, Young Adults and Children, (xi) Special questions relating to Seamen and Workers in Inland Navigation, (xii) Wages, (xiii) Industrial Efficiency of Workers, (xiv) Trade Combinations, (xv) Industrial Disputes, (xvi) Law of Master and Servant, (xvii) Administration, and (xviii) Intelligence. These heads require, so far as we can see, little or no addition. So inclusive are *they and the sub-divisions of topics appearing* under each of them that we have found them to be hardly susceptible of improvement.

The work that lies before the Commission is, therefore, a comprehensive one. Its work is expected to last some months in India and thereafter more time will be required by it for writing its Report and summing up its recommendations. But before the last of these stages is reached, it is the duty of both Capital and Labour and all interested in the development of this country to help the Commission in its work. The work of industry to-day is necessarily co-operative and co-operative on a world-wide scale. This co-operative aspect has to be increasingly stressed and realized by all concerned if the country is to progress on sound lines. It is the duty as much of Labour as of Capital to suggest remedies for existing differences and difficulties and help to bring about conditions that will prove satisfactory to

both. There should be not only increasing goodwill between them but also that goodwill should be manifest in Production. There is hardly any denying that there is to-day, inside the factory and the workshop, complete co-operation in all the operations of production and trade distribution of products. In the allocation of their respective shares of remuneration, however, employers and employees have differed and their differences have led to the cessation of Production itself. It is here that the Commission has its primary use and it is in this sphere that it has to function. If it is to prove successful, it is up to the employers and employees to put their cases before it, so that a satisfactory solution may be arrived at for the common good. It is here that co-operation between owners and workers is urgently required and it is to be hoped it will be forthcoming in a commendable degree.

"Idle" Money.

By Professor Gustav Cassel.

It is a very prevalent notion that money can be left unused, and that much injury to the community is caused by keeping money lying idle. Dealers and artisans and, in general, all those who have any goods or services to sell to the public agree in thinking that people who have any money ought not to hoard it, but should put it into circulation so as to give the sellers a chance of earning something. In times of depression we hear people say that money is being amassed in large repositories, where it is kept pending an opportunity for some good investment. State expenditure on a big scale is often recommended as a means for bringing money into brisker circulation. And in some countries people are clamouring for a more liberal credit policy on the part of the banks, and the central bank in particular, as a means to the same end.

When people, in this connection, talk of "money", they evidently mean accumulated income which has not yet been consumed. Such income, of course, may be permanently withdrawn from consumption and used as capital for investment. Those who have delved somewhat more deeply into the mysteries of economics will, of course, understand that investment means a useful employment of income, providing just as much work as the consumption of income. But even these better informed people often suppose that a considerable space of time may elapse before the receiver of the income decides on a definite investment, and that, pending such decision, the income is hoarded and left unused. This hoarding, they think, tends to diminish the purchasing power of the community and to curtail the market for productive work. The most usual idea is that this unused money consists either of coin or bank notes which the holder keeps in his pocket-book or cash-box, or else of demand deposits in the banks. The fact that large sums are kept, in one way or another, in the form of "bank-money", is supposed to be a convincing proof that the income is for the present left unused.

Recently, however, a diametrically opposed view has emerged into prominence. According to this view, it is time deposits that are responsible for money being kept unused, and the transfer of this money to demand deposits gives to economic life an increased activity.

It is really rather humiliating for economic science that it should not have succeeded in clearing up the minds of the public on a question of such fundamental importance, and indeed that economists themselves should not always have shown a mastery of this extremely elementary department of their subject. To obtain a perfectly clear insight into this question is obviously of special importance for the banking world, as fallacious notions in this respect are liable to have injurious effects on bank policy and to warp the views held by the public regarding the management of banks. It is scarcely going too far to state that the prevailing confusion in the international discussion of bank and money problems is largely due, in the ultimate, to hazy notions regarding the existence of unused money.

The banker should find it easier than others to see through the fallacy of the notion as to the existence of idle money. From his point of view all "bank money" (notes and cheque-accounts), as well as other holdings of the public in the banks, must be regarded as liabilities. And it is a generally accepted canon that these liabilities must be set off by certain real assets, in which therefore the money that is supposed to be lying idle is invested. An examination into this question seems, therefore, to be particularly appropriate in a bank circular.

The view here criticised is under all circumstances false. The following discussion must,

however, be limited to the case in which the purchasing power of money remains constant. If the currency is altered by an inflation or a deflation, such complications follow as will tend to obscure the elementary connections which here first of all should be cleared up. These complications must, therefore, be the object of a special investigation.

From the point of view of social economy, money income is to be viewed as a reward given to a person for his participation in the process of production. This remuneration is included in the price of the products as cost of production. The price of the product usually includes also an additional charge, representing the producer's *profit*; but the price is sometimes below the cost of production, in which case the deficit represents the producer's loss. The total income of the community, reckoned in money, must, therefore, supposing the purchasing power of money to remain unaltered, at any given period exactly correspond to the value of the products produced during that period. The total income in money is moreover always used for the purchase of what is concurrently produced. Hence in reality there is no such thing as unused income.

In order to get this perfectly clear, it will be useful to examine how the income originates. A worker in a factory receives a certain wage in money for his work. The producer, who has had work executed, has thereby acquired products the value of which includes remuneration for the labour bestowed on them. Thus, economically speaking, the worker's income is acquired at the moment when the work is performed. He may not be paid at once, but by his work he acquires a claim on the producer, and this claim is in itself an income. In point of fact the worker is lending this income to the producer until pay-day arrives. The producer, on his part, possesses in his products a certain real capital, which serves as cover for his debt to his workers. Consequently, the wage is temporarily invested in this real capital.

The producer may sell his products, *e.g.*, to a retail dealer. Outstanding unpaid wages are then really invested in the real capital constituted by the dealer's stock. In all circumstances the worker's income must remain invested in a real capital until the worker consumes his income, that is, uses it to buy utilities for consumption. He may do so even before pay-day, *e.g.*, by getting into debt to his dealer. Or he may wait until he receives his wage and then use it for buying products for consumption. If the wage is paid in bank notes, and if the worker carries these notes on him, he is in fact lending his wage to the note-issuing bank, which perhaps in its turn advances the money to the producer. In this case the wage will still remain invested in the producer's products. And this investment will not cease until the worker consumes his income. Should the worker wish to save part of his income, and should he accordingly deposit the money, say, in a savings bank, the bank will have to lend money to a producer, who will use it in one way or another, for the acquisition of real capital. The wage may, of course, be directly invested by the worker himself acquiring real capital *e.g.*, tools. In all cases, however, the selection of a particular investment merely signifies a *re-investment*. From the very moment of origin the wage is invested in a real capital, and remains thus invested until it is consumed. If the income is used for permanent saving, it will remain permanently invested in the real capital of the community.

What has been stated above with regard to wages is fundamental and applies to all kinds of income in money. From its very origin a money income is a claim on a real capital and remains thus invested in the real capital of the community until it is consumed. A decision to use the income as capital for a particular investment does not alter the position, but merely changes the form of the investment. Quite irrespective of any such conscious action, the income is invested from its very origin and is thus never unused. This is still more evident in the case of a producer's income which consists from the outset in an increase of the real capital of the undertaking, and which assumes the character of an income in money only by the fact that the new real capital is assessed in money. It may be objected that the income may be converted from real capital into means of payment (gold, notes or demand deposits) and thus be used to increase the *cash balance* of the receiver of the income. But, if the *cash balance* consist of gold, the income has manifestly been used for the acquisition of a real capital, a reserve of metal. If, again, the income is converted into bank notes or demand deposits, it will thereby have been lent to banks, which, as already pointed out, must have corresponding assets in the form of claims on real capital. This objection is, therefore, devoid of any significance.

The entire production of the community is divided into a production of utilities for the account of consumers and a production of real capital. That part of the income of the community which is consumed is used to purchase consumers' goods. That part which is saved is

used to acquire the newly produced real capital. Broadly speaking, the community's production is adjusted to the desires of the buyers. The degree in which production is concentrated on the production of real capital is thus determined by the corporate thrift of the community. Should people begin to be more thrifty and thus to restrict their consumption in favour of the formation of capital, production would soon be readjusted to this new distribution of the community's income. This would obviously mean that a number of persons who had previously been engaged on the production of relatively superfluous goods and services, would have to be transferred to the production of real capital. This transition would, of course, entail certain temporary difficulties. But no diminution in the total demand for labour need necessarily follow from the increased thrift. In ordinary circumstances a rather considerable part, perhaps up to one-fifth, of the community's income is saved and used for the acquisition of new real capital. The remainder of the income is consumed, that is, used for the purchase of goods and services. If we only grasp this fact, we shall understand that there is no room at all for the idea of unused income.

The adjustment of production to the manner in which the receivers of income distribute their income between consumption and saving cannot, of course, take place immediately. But this is not necessary. Should consumers one day purchase less for their consumption than usual, this need not entail any readjustment of the process of production. The only result will be to increase the stocks in hand. The income which the consumers, as they suppose, leave temporarily unused is in fact put to use just for this increase of stocks. Dealers and manufacturers who are to increase their stocks must, of course, have capital for the purpose, and this capital is really advanced to them by receivers of income who postpone the consumption of their income. One day the public will be seized with a greater desire for consumption, for example, when people are about to equip themselves for the summer, or are buying Christmas presents. At such times the public consumes its accumulated income by greatly increased purchases of finished products. This reduces the stocks in a corresponding degree. Thus minor and temporary variations in the stocks do not necessitate any change in the general course of the process of production. If, on the other hand, a more sweeping change should set in, for example a permanent increase of public thrift, the process of production will, as indicated, be obliged to adjust itself thereto. In that case too the increased savings will not for a moment remain unused but will go at once to the purchase of the new buildings, machines, plants, etc., which are now being erected or installed on an enlarged scale.

The idea that money income to a certain extent could be reserved for future use involves the supposition that the supply of capital should exceed the demand for it. In fact, it is a widespread opinion that this is the case, at least for certain periods. But if such a superfluity of savings really existed, it would not be possible to explain why it should be necessary to pay interest for the right of borrowing these savings. True that occasionally the interest on capital falls somewhat below its usual level. But it by no means disappears. And the fact that a certain rate of interest on capital is nevertheless paid is convincing proof that there is some scarcity of savings, and that it is necessary, by charging a certain rate of interest, to restrict the demand for these savings on the part of producers.

But, someone may object, if a person decides to save 100 pounds out of his income, it is by no means certain that some producer will at once be prepared to enlarge his establishment or increase his stocks by the investment of fresh capital to that amount. Hence the result of this additional saving may merely be to cause a stagnation of the circulation, and to keep the money saved lying idle. This view is propounded at present as a very plausible explanation of the prevailing unemployment, the inference being that special intervention on the part of the State is necessary in order to bring into circulation the masses of savings which are being accumulated without in any way assuming the form of active purchasing power. This view, which, as shown above, is entirely erroneous, is particularly mischievous at a time like the present, as it is liable to inveigle the public into placing confidence in programmes which aim at the abolition of unemployment by fantastic State expenditure on a number of undertakings that swallow up capital. It is indeed always desirable that production should be brought into full swing and become as intensive as possible, so that no factors of production and especially no valuable human labour shall be left unused. But in pursuing these aims one ought to proceed from a correct analysis of the true nature of the peculiar form of unemployment resulting from the aftermath of war, and, above all, people's views as to the most suitable remedies should not be warped by entirely fallacious notions regarding the existence of idle money.

The same remarks are applicable to the many influential groups which during times of depression clamorously demand that the central bank shall reduce its rates of interest and pursue a more liberal credit policy, thus bringing into circulation money which would otherwise lie quite idle. To pursue such a policy can never be the mission of the central bank. If the central bank will only regulate its credits so that the currency is maintained at a full parity with gold, and if, as far as lies in its power, it assists in the international stabilization of the purchasing power of gold, it will have done what it should. There will then be no money lying idle, nor will there be any scope for a policy which, at bottom, is nothing but a sheer inflation.

Woman and Flying.

By Harry Harper,

Author of "Twenty-Five Years of Flying".

One of the latest and most amusing features of the immense increase in airway traffic is that ærial travellers are now beginning to acquire, for the first time, a new and unique type of small talk which is specially adapted to the conditions of high-speed transport through the air. I should mention, incidentally, that the engines of the latest aeroplane expresses are so silenced that, even when they are rushing through the air at 100 miles an hour, the noise in the saloon is hardly as much as that of a tube train passing through its tunnel. Speech is easily possible, without any unpleasant raising of the voice, for people sitting adjacent to each other.

And so, when speeding on one's way to Paris, one must conjure up a new kind of casual conversation; something intimate, because the air saloons, although increasingly luxurious, are still quite small; something, too, that escapes as far as possible the banal. Here is a fair specimen of it.

Stricken Almost Speechless.

"A little 'bumpy', don't you think, to-day?"

"Yes; but then it almost always is, I find, just when you're passing across from land to sea."

Many men passengers seem stricken almost speechless by the strange feeling of being borne with such certainty, with such a sense of security, through a medium so impalpable as the air.

"Wonderful!" one of them will gasp.

"Extraordinary!" exclaims another.

"But you really *feel* as though there's something solid under you," a third will declare, blinking down, meanwhile, through 3,000 ft. of empty air to where a tiny toy-boat of a steamer is ploughing a childish furrow across the water of the Channel.

It is the women, already, who are the best "airway" small-talkers. They do not permit the sensation to strike *them* speechless or incoherent. They look about everywhere, self-possessed, with bright eyes and charmingly flushed cheeks. Their delight when something beautiful presents itself to their gaze is framed in no stammering ineffective words. They are eloquent.

The Many with the Stop-Watch.

"Look!" says one, as the "express" sweeps above a cloud-bank and mother-earth vanishes, "it is just like another world of white plains, valleys and fleecy hills. I feel as if one could get out and *walk* along what looks like a little winding road there, and up through that cloud ravine. Oh! But it's glorious! We might, for all we know, be among the mountains of the moon!"

Male escorts smile a little deprecatingly: and one of them, sitting severely practical with a stop-watch, announces to all and sundry that the Channel has been crossed from shore to shore in so many minutes.

If the men are afraid to let themselves go the women certainly are not; and it is to them, in this fresh art of polite, appropriate conversation up in the air that one hands, admiringly, the palm.

The developments which are now in progress in the amenities of ærial travel are specially welcome to women. What pleases them most is that unlike earth transport, with its dust and vibration, they can emerge from an air saloon after a long flight, spick-and-span, and not in the least travel-weary.

It is abundantly clear, already, that women do not intend to remain on the earth during the dawn of the great new era of the air. More and more women passengers are, I am informed, now being booked by the continental "airways". Quite often they outnumber the men. Nor are they content to play a merely passive part and simply sit in a machine that someone

else is piloting. Far from it. They are handling for themselves, in increasing numbers, the neat, swift "air-cars" that are now forthcoming. Only the other day, when a well-known air pilot decided that the time might be ripe to start a school for skilled flyers of public hire "taxi-planes," he found that half a dozen of those interested in his schemes were young, vigorous and ambitious women who were keen to enter this new profession of the air.

Women as Pilots.

That a well-qualified woman, mentally and physically, lacks anything that would enable her to be a good aeroplane pilot was proved not to be the case even in days far distant before the war, when the handling of a flying machine was infinitely more arduous and risky than it is now. As a matter of fact, with the modern machine growing more and more stable, and its control becoming so much a question of delicacy of touch, a woman is particularly well suited to fly any properly-equipped touring aeroplane.

That a woman's nerve might fail her in some emergency has often been an argument advanced; but it was disproved very clearly only the other day. A young woman pilot was undergoing tuition and was making one of her first flights alone in the aeroplane when the motor stopped suddenly. She was not over the aerodrome at the time, and the moment would have been an awkward one for even a skilled pilot. This woman novice, however, did precisely the right thing. She got back on to the flying ground in a clever glide which won her the unstinted admiration of her instructor.

Sterling Courage.

As to the sterling courage of the "air woman," this need not be doubted. Women often have that wonderful, dogged "two o'clock in the morning" sort of courage which is so extremely rare. Just recently, for example, as a test, a woman parachutist went up in an aeroplane until it was nearly 15,000 ft. above the earth. Then stepping boldly out on the fuselage in a numbing cold that was below freezing point, she quietly and deliberately flung herself overboard and parachuted down to the earth so infinitely far below. We need, therefore, fear neither the courage nor the skill of the carefully-trained woman of the air.

In the development of popular flying one of the chief portents, now-a-days, is the enthusiasm of women. In many cases it has been the unremitting work of women organizers which has played a prominent part in getting local aeroplane clubs established and, once formed, the women members have spared no pains to make them a success.

The instructors at aeroplane clubs speak of the alacrity with which the feminine mind grasps those fundamental questions which govern the movement and control of a heavier-than-air flying machine. Women air pilots are keen and at the same time cautious. They take nothing for granted. They do not mind being told of their mistakes. They come out day after day for their lessons punctual to the minute, and are prepared to study every phase of the subject they are seeking to master. Once they have acquired the knack of controlling an æroplane, their quickness of movement and lightness of touch prove assets of the utmost value. Women have won the day as drivers of motor-cars and they are now beginning to win just as sure a place for themselves in the air.

In a letter to the *Journal of the Royal Society of Arts* (5th April 1929), Mr. Willis A. Naudain stresses the increasing importance of museums to education both to the student and to those who have passed the students. Mr. Naudain, who is a member of the "Franklin Memorial Incorporated", urges those who are interested to have complete details of this plan by referring to an article by Howard McClenahan, Secretary of the Institute, in the December 1929 issue of the *Franklin Institute Journal*. He observes that what is being done in Philadelphia is being planned in many cities throughout the nation, with an interchange of material, and resultant diffusion of knowledge. We in India may profitably note how education is being advanced far away from the beaten track in the West.

Kelmscott House, in Hammersmith, where William Morris established his Kelmscott Press, contains many interesting relics of the famous poet, artist and craftsman. In the oak-panelled ground-floor room overlooking the Thames, where he died, is the original of the first piece of wall-paper designed by him and his friend, Philip Webb, the architect. The study adjacent, where Rossetti, Burne-Jones and Madox Brown worked in conjunction with him, is decorated with original Morris tiles. Here, too, preserved under glass and yellowed with age, is the first number of his Socialist journal "Commonweal," published in February, 1885. In what is known as the "River Room" is the ornate iron firegrate designed by Webb, and given to Morris as a wedding present.

Loans to Small Cotton Producers.

By The Secretary, Indian Cotton Committee.

In October last, Sir Purshottamdas Thakurdas forwarded a cutting from the *Pioneer* consisting of an interview with the Egyptian Premier on the policy of his Government. In the account of this interview, mention was made of a scheme for loans on the security of cotton designed to assist the small producer. Sir Purshottamdas Thakurdas requested the Secretary, Indian Central Cotton Committee, to obtain details of the scheme with a view to have it examined as regards its possible application to India.

Application was made to the Secretary, Ministry of Agriculture, Cairo, for particulars of the scheme.

The scheme is designed to be worked by Government in co-operation with banks. A nucleus fund of £ E. 15,000 is to be deposited by Government with each bank for the purpose of making advances against cotton deposited by cultivators in approved godowns, compounds, etc. Banks will requisition daily from the National Bank the amount of advances approved on the previous day. The grower may deposit his cotton at any of the several places nominated by Government, including bank compounds, warehouses and approved ginning factories, obtain advances on a fixed scale according to the amount of cotton deposited, its variety and class. The limits of the amounts of cotton upon which advances can be obtained are minimum 5 kantars (6 maunds), maximum 500 kantars (600 maunds). Interest at the rate of 4 per cent per annum is required to be paid by cultivators taking advances, but all other charges, *e.g.*, storage, packing, weighing, protection, etc., are borne by Government. Advances are only granted to growers on their own crop and they are required to furnish a declaration to this effect previous to receiving a loan from a bank. Each cultivator has to sign a contract form before receiving an advance. Advances are sanctioned for a period of four months with the option of extension for four more. The necessary staff, cashiers, agents, warehouse-keepers, etc., are nominated by the banks but paid by Government. Furthermore, the banks furnish sacks, etc., at a reasonable cost to borrowers requiring these for the packing and storage of their cotton, the expense in this connection being also met by Government. It is interesting to note that the borrowers have to agree to Government taking charge of the ginning of all cotton deposited and to accept the classification of their cotton made at the place of deposit or ginning factory. The borrower further authorizes Government to sell the seed at a price considered reasonable and may authorize Government further to effect the sale of his cotton after ginning in the Bourse of Minetel Bassal. In default of payment at maturity of capital, interest and expenses which have been advanced by Government to borrowers, Government can proceed to sell the cotton deposited after 30 days' notification of sale; 1 per cent will be recovered from the proceeds of such sales for the expenses incurred in realizing the security and, from the net price obtained, the advance, principal and interest outstanding are deducted and the balance sent to the borrower.

The scheme was considered by the Local Sub-Committee at its 49th meeting, April 12th, 1929, when it was decided that, in view of the great interest to India of such a scheme for financing cotton-growers, the details should be brought on the agenda of this meeting of the full Committee for discussion. In the interim, a further letter was sent to the Ministry of Agriculture, Egypt, thanking them for their valuable information supplied and asking to be favoured with any *report on the working* of the scheme in Egypt if such a publication was available.

The following reply was received :—

Copy of letter No. 6443-34-3-5, dated 28th May 1929, from the Under-Secretary of State, Ministry of Agriculture, Cairo, to the Secretary, Indian Central Cotton Committee.

Translation :—"I have the honour to acknowledge receipt of your favour No. 3641 of the 18th April 1929 the contents of which, as of your letter No. 4149 of 17th May following, have received our best attention. In reply I beg to bring to your notice that the project of granting advances on cotton to members of co-operative societies is at present under examination. As soon as a decision is arrived at, a further reference will be made."

In the original papers received in connection with this subject, no mention was made of advances being confined to "members of co-operative societies" and this point has been referred to the Ministry of Agriculture, Cairo, for further details. In view of the recent finance and marketing investigations on the cotton crop up-country, which have been carried out by the Indian Central Cotton Committee, the details of the Egyptian scheme are of great

interest to the Committee and it is for consideration whether steps should be taken to bring the main features of the scheme to the notice of the Government of India and Provincial Governments. In addition, it is possible that Co-operative Institutes, Central Co-operative Banks and similar institutions interested in the finance and marketing of crops would find information dealing with a scheme of this description interesting and valuable.

Barrage and Lloyd Canals.

By "Agricola."

The problem of the Lloyd Barrage and Canals Construction Scheme has hitherto attracted public attention largely in its engineering aspect and in the provision of the large sums of money necessary for the construction of the Barrage and the canals. There are, however, many other problems, not directly connected with the construction of the work or with its results as an irrigation scheme, but arising from the fact that an area of some 3,600,000 acres in extent, bearing crops and supporting a large population, is about to be added to the cultivable area of the Presidency, that is to say, an area larger than the present administrative district of Sukkur will be added to the cultivable area of Sind. All the land is indeed included within the boundaries of the existing districts, but for all practical purposes a very large proportion of it, being uncultivated and undeveloped, has not been affected by the existing administrative machinery. When it is cultivated and developed, it will require communications, revenue officers, police, education, medical facilities, etc., in order that it may fit into, and play its part in, the administrative machine. All these aspects of the Barrage project and, in particular, those bearing on the agricultural problem have recently been examined by Government and the results of the consideration of the problem, as a whole, incorporated into a connected review which has been laid before the Legislative Council.

It may be of interest to recall the main features of the project. The cost of the Barrage and of the canals is estimated at Rs. 20.03 crores. There are seven main canals with a total length of over 1,000 miles, and with branches and distributaries the figure comes to 6,211 miles. In excavating these canals 5,550 million cubic feet of earth are being removed, partly by manual labour and partly by dragline excavators. The total capacity of these machines approximates to 74 tons of earthwork per minute on the basis of 5¾ days of 24 hours' work per week equal to about 75,000 men for the normal working season of 5 months in the year. The efficiency of the Public Works Department employed in Sind has overcome the problems connected with this work which has attracted the attention of engineers throughout the world; and, so far as human intelligence can foresee, there is nothing to prevent the project from bieng completed within the estimated time. While the engineers have been carrying out the construction, the Survey Department of the Government of India has been conducting a rectangulation survey in order to facilitate the dividing up of the whole area into 16 acre squares. Wherever possible, water-courses will be aligned over the area of command on the basis of this survey. The cost of rectangulation and the provision of water-courses will amount to about Rs. 2-8-0 per acre. It was from the outset proposed that the cost of constructing new water-courses should be recovered from the zamindars, since approximately three-quarters of the Barrage area comprises land already occupied or rather already in private ownership. In order to enable this money to be so recovered, it will be necessary to amend the Bombay Irrigation Act, 1879, and obtain authority for the charge. It will also be necessary to obtain legislative sanction to the recovery of the rectangulation charges. It has further been found that the Irrigation Act is defective and unsuitable for dealing with the transformation of the greater part of Sind from the old conditions of haphazard irrigation to modern methods of distribution and use of water, and its further amendment is under consideration.

Outside the Barrage area the three large canal systems in Upper Sind are to be completely remodelled, while in Lower Sind Government gave assurances to the zamindars when the project was first presented, and have since renewed them, that systematic improvements to canals in this area will be undertaken, and in pursuance of these assurances projects are in process of preparation for the complete remodelling of the canals irrigating this part of the country. As the result of the adoption of these measures, not only will Lower Sind be safeguarded from a possible lowering of the river levels at critical

periods due to withdrawals of the Barrage canals, but the more equitable distribution of supplies will benefit very considerable areas now precariously commanded. The liability to which Government are committed in this respect amounts to Rs. 113¼ lakhs. The provision of a second Barrage for Lower Sind is beyond the bounds of practical politics.

As regards communications, the sufficiency of the present road system has been examined and an estimate has been prepared by a special officer of the cost of providing a network of roads through Sind, as cultivation increases and the country develops. The general policy in regard to roads and other forms of communications has, however, yet to be laid down, and it will, in the first instance, be considered by a standing committee of officials in Sind which Government have decided to set up as a measure of administrative convenience.

In this connection the provision of railways is an important matter, and those proposed to be constructed may be grouped under two systems, *viz.* (1) the Sind Left Bank and (2) the Sind Right Bank Feeder Railways. The first system consists of 162 miles of broad-gauge lines estimated to cost, with interest on borrowed money, nearly Rs. 97½ lakhs. The lines are not expected to pay immediately and it has been agreed with the Railway Board that the Government of Bombay should guarantee, against loss in working, a fixed sum of Rs. 4 lakhs per annum for the first 5 years after opening for traffic and of the actual loss that may be incurred in the working of the lines in subsequent years, subject to a maximum amount of Rs. 2 lakhs per annum, these amounts being repaid to the Bombay Government with interest, should the lines subsequently prove remunerative. The construction of these lines is in progress. The Sind Right Bank Feeder Railways have an aggregate length of about 135 miles and are expected to cost Rs. 124¼ lakhs. They are expected to give a return of just over 4½ per cent and it is probable that the Government of Bombay will not be required to furnish any guarantee. Other Railway schemes are under consideration.

Very careful consideration has been given to the question of Land Policy and Revenue. The essential difference between the re-settlement of Sind and the colonization of the canal areas in the Punjab is that in Sind the new canals are to irrigate an already settled country, whereas in the Punjab for the most part the irrigable area was at the outset a desert. The zamindars of Sind have their established position in the country and it is essential that their legitimate claims should be considered. When these have been satisfied, adequate provision must be made for special classes such as peasant cultivators, and thirdly, land must be sold in the open market in order that the capital cost of the project may be met by the receipts from the land sales. Only some 1½ million acres are available for the purpose of distribution. The various classes of grants to be made may be considered under the following heads :—

(1) *Fallow-fortified and Mohag Grants.*—Three hundred and fifty thousand acres have been set aside to be granted to existing landholders at the nominal rate of Rs. 15 per acre, and since Government are undertaking a capital expenditure of over Rs. 30 per acre on this land and on every other acre already occupied the magnitude of the financial concession which is being made to the existing landholders in the tract will be appreciated.

(2) *Peasant Grants.*—Government, a few months ago, published details of the terms on which they were prepared to grant land to peasants. These persons would be settled only on land of good quality and a grant would ordinarily be about 16 acres and never more than 24 acres. 50,000 acres have at present been set aside for the purpose of these grants and it is hoped that later a larger area may be made available for the purpose. The peasants will pay Rs. 3 per annum for the first 5 years and thereafter will pay malkano at the rate of Rs. 5 an acre for 15 years or a smaller sum for a longer period of years up to Rs. 3 per acre for 40 years. This malkano, it should be mentioned, is half the amount paid by peasants in the Punjab.

(3) *Sales at full rates.*—Sales by open auction will be the rule and these will be open to all bidders, whether from this or from other Provinces. Payment by instalments will be permitted, the general rule being 10 per cent. down and the balance in five equated annual instalments of principal with interest at 6¼ per cent.

Government have also made provision for limited auctions, sales at fixed prices, and for extraordinary grants and also for leases. The question whether the enormous increase in the value of land already in private possession which will accrue as the result of perennial irrigation would justify the levy of a betterment tax is being considered by Government.

The agricultural problems requiring to be solved have now been indicated in a separate Press Note where the steps, being taken, have also been described. It is proposed that the

administrative work of the Agricultural Department in Sind, both within and without the Barrage area, shall be placed in charge of a special officer with headquarters at Karachi. but for the present at least technically subordinate to the Director of Agriculture at Poona.

The Forest Department is also interested in the Barrage project, because it has been realized that, with the development of Sind under the Barrage, fuel and timber will be needed in the country. Arrangements have been made to give an assured supply of water to a large area of forest. The question of providing plantations in different parts of the country to be irrigated by canal water was discussed by the Royal Commission on Agriculture and their recommendations are being referred to the Standing Committee alluded to above.

All the districts in Sind, except Karachi, are directly affected by the construction of the Barrage inasmuch as the new canals will flow through them. The Upper Sind Frontier District and the Sukkur District will only be affected to a small extent, but in Larkana, Nawabshah, Hyderabad and Thar Parkar the very large areas that will become available for cultivation will throw a very heavy additional burden upon every branch of the administration. Government have accepted in principle the necessity for two new districts but these will not be taken in hand simultaneously but gradually. A proposal is under consideration that one district should be on the right bank of the Indus and have its headquarters at Dadu, and that it should come into existence on the 1st April 1931, in view of the fact that the canals in that area are expected to be in working order in the following year. The Revenue and Police buildings required have been estimated to cost just over Rs. 8 lakhs, whilst the recurring expenditure on the Revenue establishment will amount to Rs. 1,59,000 and on the Police establishment to Rs. 72 000. At a later date it is suggested that a new district might be established on the left bank with headquarters at Tando Muhammad Khan. The cost of the buildings required would be Rs. 6,11,000 at headquarters and Rs. 8½ lakhs for new Talukas, making a total expenditure of over Rs. 14¼ lakhs, while the recurring expenditure on establishments would be Rs. 3,40,000 on the Revenue and Rs. 1,06,000 on the Police.

On agriculture the expenditure in the immediate future is estimated at Rs. 3.85 lakhs non-recurring and Rs. 1.47 lakhs per annum recurring, in the more distant future this may rise to Rs. 13 lakhs non-recurring and Rs. 11.4 lakhs per annum recurring.

The following statement summarizes the estimated cost of irrigational expenditure, capitalized as at 1st April 1935:—

	Lakhs of rupees.
Outstanding debt for Lloyd Barrage and Canals Construction	25,25
Less Amount to be paid by Government of India	—75
Outstanding debt for Lower Sind Canals ..	1,30
Capitalized value of working expenses up to fifty years from 1935-36	6,60
TOTAL ..	32,40

This includes no provision for the agricultural experiments necessary for the completion of the project nor for any other expenditure other than that on the Barrage and canals.

Figures of realizations, both from land sales and from increased land revenue, were framed when the project was inaugurated. Government are having these figures re-examined. And, when this scrutiny has been completed, a further report on this aspect of the project will be published.

Mr. Albert Thomas, Director of the International Labour Office, Genevá, during his recent tour of Soviet Russia has come to the conclusion that the 'facts' about Soviet Russia that are generally purveyed are coloured both ways. He records in a recent April issue of the *Industrial and Labour Information*, (15th April) that the impression he received from what he saw in Moscow falsified the notions of life under Bolshevik regime which are spread abroad by systematic propaganda, whether favourable or unfavourable. He pleads for the "need of impartial, objective and scientific study to arrive at exact knowledge of living and working conditions in Soviet Russia irrespective of prejudice."

In the Survey of India General Report for 1927–28, some interesting facts are given regarding Mount Everest. It is nearly 1000 feet higher than any other known peak. From observations taken in 1849–50, the height of Mount Everest was deduced at 29,002 feet. In 1880–83 and in 1902 further observations were made and in 1907 Sir Sidney Burrard declared a height of 29,141 feet. Dr. Hunter recently carried on researches and he has come to the conclusion that it lies between 29,050 to 29,100 feet. The recent survey of Nepal has confirmed the Survey of India view that there is no native name for Mount Everest and that the name Gauri Shanker applies to a twin peak about 30 miles distant from Everest.

Madras Since the British Conquest--VI.

By The Editor.

H. H. Krishnaraja Wodeyar III (1811-1831).

We may now briefly review the second period of the reign of His Highness Krishnaraja Wodeyar III (1811-1831), the first period (1799-1811) having ended with the Regency of Dewan Purnaiya.

GOVERNORS-GENERAL,
GOVERNORS, ETC., OF THE PERIOD.

During the greater part of this period, the *Hon. A. H. Cole was the British Resident. He* was succeeded in 1827 by J. A. Cassamaijor, who had filled different positions at Seringapatam and on the Residency Staff. The period also covered the last two years of the Governor-Generalship of the Earl of Minto (1807-1813), the full terms of office of the Marquis of Hastings (1813-1823) and the Earl of Amherst (1823-1828) and the first three years of Lord William Bentinck (1828-1835). In Madras, it covered part of the Governorship of Sir George Barlow (1807-1814), and the tenures of Mr. Hugh Elliot (1814-1820), Sir Thomas Munro (1820-1827) and Mr. S. R. Lushington (1827-1832). Sir Frederick Adam (1832-1837) just began his Governorship when this period of His Highness' reign closed.

DEWANS OF THE PERIOD.

The following persons held the office of Dewan during this period :—

Bargir Bakshi Balaji Rao. April 1811 to January 1812.

Savar Bakshi Rama Rao. February 1812 to October 1812.

Babu Rao, November 1817 to April 1818.

Siddharaj Urs, May 1818 to February 1820.

Babu Rao, March 1820 to August 1821.

Lingaraj Urs, November 1821 to November 1822.

Babu Rao, December 1822 to November 1825.

Venkate Urs, May 1827 to October 1831.

Not much however is known of these Dewans. Savar Bakshi Rama Rao was the brother of Bishtopant, the Bishnapah of the Wellington *Despatches*. He had been appointed Faujdar of Nagar Division on the Restoration of the Country in 1799. Subsequently, in 1809, *when the mutiny of European officers spread to* Mysore, he was appointed to impede the progress of the British Force marching from Chitaldrug to Seringapatam. He was made Dewan at the instance of Mr. Cole, the Resident. He was an highly honourable person and was eventually granted a special pension of Rs. 800 per mensem in recognition of his meritorious service by the Madras Government. The pension took effect from 1st January 1812, and was enjoyed by him uninterruptedly during a period of 28 years. He also distinguished himself in the war against Holkar in 1818 and was then rewarded by Krishnaraja Wodeyar III with many valuable *khillats* and presents, including an elephant on which he was allowed to ride in a howdah—a rare mark of honour. (*Nirup* dated 11th March 1818). Babu Rao, who became Dewan in November 1817, was an equally well-known personage of the time. He *had served under Haidar and had been present* at the battle of Perambak at the defeat of Col. Baillie. Subsequently he was in Civil employ. In the later days of Tipu, he was upheld as a rival of Purnaiya and was always considered by him "as the man of all others in his Government next to that distinguished individual most fit to perform the office of Finance Minister." (Col. Briggs' *Minute* dated 14th May 1832.) He filled the office of Dewan on three different occasions and finally retired from service in November 1825. He was, as will be seen below, recalled by Col. Briggs, the Senior Commissioner, and re-appointed to the same post in 1832. *That he was considered by reason of* his character and abilities, fit for that post, there can be no question, as in the *Minute* quoted above, he speaks highly of him.

On the sudden resignation of Purnaiya, His Highness Krishnaraja Wodeyar had to meet a rather trying situation and from all accounts, he appears to have conducted himself with considerable discretion. With the consent of of the Hon. Mr. Cole, he forthwith appointed Bargir Bakshi Balaji Rao, a man of talent and ripe experience to take over the office of Dewan. But he held office only for about 9 months, when Babu Rao took his place. Under Babu Rao the administration was conducted on the lines estabilshed by Purnaiya. The country was divided into the six Faujdaris; Bangalore, Maddigiri, Chitaldrug, Ashtagram, Manjarabad and Nagar. These were, again, sub-divided into 125 *gads* or taluks.

SYSTEM OF ADMINISTRATION.

The Faujdaris were under the Dewan who managed them with an office consisting of 18 departments, all personally subordinate to him. These administrative divisions continued to the

end of His Highness' reign under succeeding Dewans. There was during this period little change in the system of administration as devised by Purnaiya. According to *Hukkumnama* dated 26th March 1819 issued by His Highness, it would seem that the took personal interest in every part of the District administration. (See *Annals of the Mysore Royal Family, II*, 57-78.)

Between 1810 and 1824, His Highness' Government took a prominent part in the operations against Amir Khan, in the Pindari War of 1812-17, in the final operations against the Pindaries in 1818, in the pursuit of Peshwa Baji Rao in 1800 and in the suppression of the insurrection of Kittoor in 1824. In all these wars, the Mysore Horse distinguished itself, and His Highness was again and again thanked by the Government of India for the valuable services rendered by him.

Relief for the Ursu Community.

His Highness took a personal interest in the education and well-being of the members of the Ursu Community who, during the usurpation period, had been despoiled of their riches and reduced to poverty. His Highness brought them together, provided for their accommodation and means of livelihood by settling salaries and pensions on them.

His Highness' Visit to Bangalore.

His Highness paid, in October 1811, a State visit to Bangalore, travelling in the company of the Hon. Mr. Cole, the Resident. His Highness held a Durbar at the Palace in the Bangalore Fort on the occasion. The visit proved a great success, a large number of European ladies and gentlemen having been thus given an opportunity to offer their respects to him. His Highness took a keen interest in the development of Bangalore and extended hearty support to the scheme of making it the seat of a Cantonment. He granted the necessary lands for the purpose from time to time as required by the Supreme Government.

Tour through the State, 1820–1821.

In the year 1820-1821, His Highness travelled through the State, visiting in his progress most of the Faujdaris, including Ashtagram, Nagar and Maddigiri.

Bridge across the Cauvery.

One Triplicane Ramaswami Mudaliar, who had seen service under Col. Wilks, built (or rather re-built) two bridges across the Cauvery at Sivasamudram. He is said to have expended several thousands of pounds on the work, for which he received from the British Government in 1843, the title of *Janopakar Kam Karta* (the constructor of a work useful to the people) as also an estate of five villages, yielding about £800 annually. His Highness the Maharaja granted him, in 1829, seven villages, yielding annually £900, in recognition of his meritorious services. These bridges are no more, having been washed away a couple of years back, and are under reconstruction now. They were, according to Mr. Bowring, fine specimens of Indian workmanship being composed of hewn stone, supported on colossal pillars twenty feet high, firmly fixed in the rocks of the river, while they were so constructed as to resist the force of the current during high floods, which are truly formidable. (See *Eastern Experiences*, 47-48; also *Annals of the Mysore Royal Family*, *II*, 84.)

H. H.'s Administration: Misapprehensions.

About 1814, some differences arose between the Hon. Mr. Cole, the Resident, and His Highness the Maharaja, mostly due, as they would now seem, from a misapprehension of the financial position. The large balances left by Purnaiya in the Treasury had been, it is said, expended, and that benefactions to temples had increased. There seems no ground for these suggestions. As regards the expenditure, the subsidy had to be paid, under the Treaty, regularly every month and even so adverse a critic as the late Mr. Lewin Bowring has openly acknowledged that His Highness had paid it scrupulously on the due dates. "It does not appear," he says "that he (His Highness) at any time failed in paying the subsidy due by him to the British Government." (*Eastern Experiences*, 189). During His Highness' reign he had to maintain an efficient army, which, under the Treaty of Seringapatam of 1799, as amended by the Supplementary Treaty in 1807, was obligatory on him. As already stated, these forces had proved immensely useful in the wars in which the British were engaged between 1810 and 1824. (*See Ante.*) These wars meant also additional expenditure, apart from maintenance charges. Next, there were at least two years of serious distress—1816–17 and 1823–24. The latter year was really a year of famine. The ordinary expenditure averaged about Rs. 70 to 90 lakhs per annum. The total receipts averaged as follows during the decades mentioned below:—

1801	..	.. Rs. 77 lakhs.
1800–1810	..	.. Rs. 86¾ lakhs.
1810–1820	..	.. Rs. 86¼ lakhs.
1820–1830	..	.. Rs. 76 lakhs.

As the expenditure went up to Rs. 90 lakhs, some years proved deficit years. Moreover.

owing to low prices, the grain collected as the Government share fetched very low prices. If Purnaiya spent large sums on public works, His Highness did not lag behind the standard set up by him in this connection. Between the years 1811–12 and 1830–1831. His Highness' Government expended something like 8,50.272 lakhs of Kantirai pagodas on Public Works. This means, on an average, about 45,514 Kantirai pagodas. An examination of the annual expenditure incurred during these twenty years shows that on an average not less than 22½ lakhs of Kantirai pagodas was expended on them, though in some years this expenditure appears to have mounted up to even 68½ lakhs of *pagodas*.

SIR THOMAS MUNRO'S VISIT.

His Highness' well-known generosity and his interest in temples and other religious institutions appear to have created a misapprehension in certain quarters. This was wholly unfortunate as it affected political relations as well. In 1825, the "misunderstandings" and "irritation," as Sir Thomas Munro, then Governor of Madras, put it in a *Minute* dated 8th November 1825, on the part of the Hon. Mr. Cole had reached such a stage that Sir Thomas deemed it necessary, by a personal visit, "to remove, if possible, the causes of irritation". Sir Thomas arrived at Mysore on 16th September 1825 and paid a visit to His Highness. In the *Minute* above referred to, he sets down what took place at the interview. He held that there was no substance in the suggestion of the Resident that accounts had not been furnished by His Highness' Government. He held that they "had not been furnished from the time of Purnaiya, and because they were probably not ready". At the same time, he put it to His Highness that by furnishing of accounts, the Company's Government would be enabled to know "the true state of affairs" which would put an end to "vague reports" and avoid "interference" with the affairs of His Highness' Government. He also assured His Highness that any suggestions made by him were not intended to interfere with His Highness' Government. He explained that it was his wish that His Highness should be under no alarm about the security of the Treaty, but set his mind at rest regarding it, because it was not the intention of the British Government to alter it on any point; that by keeping it unchanged, many advantages accrued to both States." He suggested to His Highness that expenditure should not exceed the receipts; that he should accumulate "a treasure of ten or twelve lakhs of Kantirai pagodas (about £300,000)" and that "when this was accomplished, there would be room for again replacing the diminution which the present state of things might render it necessary to make in some of the Departments." At the same time, Sir Thomas took occasion to restore cordial relations between the Hon. Mr. Cole and His Highness which had been somewhat ruffled by the rude behaviour of one of the former's servants. After reviewing the situation, Sir Thomas held that no case had been made out for interference by the Company's Government. He wrote:—

"By the orders of the Supreme Government, our superintending influence is to be exercised *with caution, delicacy and moderation; and it* is supposed that the 'reasonable interposition of our advice, combined with the disposition of the executive Administration to cultivate the *good opinion of the Company's Government*, will always be sufficient to prevent the occurrence of any fragrant abuse'."

In regard to alleged over-expenditure for religious purposes, after a careful examination of the statement prepared by the Hon. Mr. Cole, Sir Thomas held that there was no ground for this allegation. He wrote:—

"As the expenditure by the Rajah under the heads of Pagodas, Brahmins, Fakirs, etc., is double what it was in Purniah's account, I wished to have suggested a considerable reduction to the Rajah, but the design was given up because it appeared to the Resident upon further inquiry that Purniah did not show all his disbursements for these heads and that the whole was so little less than the Rajah's expenditure that it was not advisable to make any alteration."

MR. COLE SUCCEEDED BY MR. CASSAMAIJOR.

The Hon. Mr. Cole was, in 1827, succeeded by Mr. J. A. Cassamaijor as Resident.

DISTURBANCES IN NAGAR, 1830.

In 1830 symptoms of certain disturbances began to show themselves in the Nagar country. The people of this part of the State were rather of a turbulent type and never paid their dues to Government with any degree of regularity. The outstanding balances of revenue had accumulated to upwards of thirteen lakhs of rupees. Large remissions to the extent of seven-and-a-half lakhs were made in 1828. His Highness disapproved of these remissions and displaced the Faujdar by another from head-quarters. The latter discovered that much fraud had been practised in the remissions, and reimposed the claims, which naturally excited dissatisfaction in those affected. The

previous Faujdar's party, also, fearful of the consequences to themselves if the inquiries which his successor was pursuing should expose the corruption and malversation they had practised during so many years, connived at the seditious proceedings of a pretender to the throne of Nagar. This man, whose real name was Sadar Malla, was the son of a common ryot of Kumsi. Before the age of twenty he had been concerned in several robberies and spent two years in jail. He afterwards entered the service of a Jangama, who had been priest of the last Nayak of Bednur and was possessed of his seal rings. These, on the death of the priest, Sadar Malla got hold of, and assuming the name of Budi Basavappa, wandered about the country secretly giving out that he was a descendant of the Nagar family. About 1812 he was imprisoned for some time in Kanara for robbery, and on release obtained a passport bearing the seal of the Zillah court, in which was entered his name as he himself gave it, Budi Basavappa Nagar Khavind. This document was now exhibited as a sannad from the East India Company recognizing his claims. These deceptions were effectual, and when the discontent to which we have alluded was at its height, taking advantage of it to promise a full remission of all balances and a reduction of the assessment, he was, about April 1830, formally recognized by several patels as the sovereign of Nagar.

In August 1830, a force in the name of Sadar Malla attempted to surprise the fort of Anantapur, but failed. At the same period the ryots in various places assembled in *kuta* or indignation meetings. On the ground of these commotions, the new Faujdar was recalled, and the former Faujdar restored. He made use of troops to disperse the ryots at Hole Honnur on the 7th December, and several were killed and wounded. But they rallied near Honnali and were joined by larger numbers from all parts, who openly espoused the cause of the pretender. The Faujdar again attacked them with a regiment of horse and broke up the assembly. Sarja Hanumappa Nayak, the Palegar of Tarikere, now suddenly left Mysore and joined the insurgents, seizing on Kaldroog and Kamandroog. The Faujdar of Bangalore also reported his Division to be in a general state of insurrection. Strong reinforcements of troops were sent to the disturbed districts in the Bangalore, Chitaldroog and Nagar Divisions; and H. H. the Maharaja set out with a considerable force on the 13th December for Channarayapatna, where it was proclaimed that the grievances of the ryots would be inquired into. Investigations were made by the Dewan for some days; several persons were hanged, others were flogged or punished. Meanwhile there were encounters in various parts between the insurgents and the troops.

In January 1831, His Highness' camp was established at Hebbur, and the Dewan was despatched with troops against Kamandroog, while Annappa, an officer of cavalry, was appointed to supersede the Faujdar of Nagar. Annappa maintained an arduous conflict for several weeks with the insurgents, and was forced to take refuge in Anantapur. Here he remained till nearly starved, when addressing his troops, he said, "Rather than die in this way of starvation, let us go and fight, and die like soldiers." They responded, and sallying forth on the Shikarpur road, fought their way stoutly for fifteen miles to Masur in the Company's territory, whence they retreated to Harihar. The operations against Kamandroog failed, but Kaldroog was taken in February. British aid was now applied for, and a regiment started from Harihar. At the same time, Lieut. Rochfort, of the Resident's escort, taking command of the Mysore troops, captured Kamandroog on the 3rd of March, the Palegars escaping during the assault. Hence Lieut. Rochfort marched to Shimoga, and hearing that a large body of insurgents had taken Honnali, he proceeded there and took it by assault on the 12th. He now marched west, and carrying several stockades, temporarily recovered Nagar or Bednur on the 26th, and Chandragutti on the 6th of April. Meanwhile, enriched by the plunder of district treasuries and other depredations, the rebel leaders were joined by bodies of armed men, both horse and foot. Attracted by the hope of plunder, 1,500 Kandachar peons of the Bedar caste also deserted to them.

Owing to the increasing strength of the insurgents, the entire Subsidiary Force was employed. One regiment had to retire from a fortified barrier at Fattepet, but the British forces being concentrated at Shimoga, moved on the 31st of May by a circuitous route to Nagar which was finally taken on the 12th of June, and a death-blow given to the disturbances. By the next month, the majority of the ryots had returned to their villages under the protection of letters of *coul*. But the rebel leaders continued at large with marauding bands, committing outrages and raising disturbances for some months longer. Sarja Hanumappa Nayak, the Tarikere Palegar, offered a strenuous resistance, which he continued till 1834, when he was seized and hanged.

Causes of the Disturbances.

Mr. Lewin Bowring has remarked that these disturbances in Nagar were due, in great measure, to the faulty system of renting out large tracts of country to the highest bidder, a practice which led to great oppression and discontent, the renters being generally outsiders and as rapacious as they were venal, (*Eastern Experiences*, 162). But the system had been long in vogue and was not unknown to other parts of the State or to Southern and Western India. It has further to be remarked that similar disturbances occurred in Kanara, the people of which part are closely allied to those in Nagar. "In both cases," writes Mr. Bowring, "oppressive taxation was the alleged ground for the discontent which prevailed, a feeling which was certainly fomented by the Tarikere Palegar as also by a pretender to the Nagar throne, called Budi Basavappa." (*Ibid.*, 163). The Supreme Government, however, attributed the disturbances to alleged maladministration by His Highness, and made it the cause for taking the power out of his hands. As Mr. Bowring has remarked, the action of Lord William Bentinck, then Governor-General, has been questioned, for "it does not appear," that His Highness "intentionally oppressed his subjects, or that he ever did actually fail to pay the subsidy due to the British Government, while it is certain that the people of that part of Mysore (*i.e.*, Nagar) where disturbances broke out were indifferently loyal and prone to disaffection." (*Ibid.*, 162-163). Mr. Bowring, indeed, has definitely stated his opinion that he does not consider that these disturbances were themselves "a sufficient justification for depriving the Raja of his sovereign power." (*Ibid.*, 190). And if this alleged ground is taken away, there was none other that could, with justice, have been, in the light of the evidence available, urged against him, especially in view of the conditions prescribed in Articles 4 and 5 of the Subsidiary Treaty of 1799, which alone would have justified interference for taking over a part or whole of the country for purposes of direct management by the Company's Government.

Indian Caste System: A Study—IV.

By The Editor.

Origin of Caste: Theories of Nesfield and Senart.

Mr. Nesfield, to whose theory we have already referred to, assumes the essential unity of the Indian race and appeals to "physiological resemblance" to prove that "for the last three thousand years at least no real difference of blood between Aryan and aboriginal has existed except perhaps in a few isolated tracts". In his opinion the Aryan was thoroughly absorbed by the indigenous population. His theory is best stated in his own words:—

"If it were possible to compress into a single paragraph a theory so complex as that which would explain the origin and nature of the Indian caste, I should attempt to sum it up in some such words as the following:—A caste is a marriage union, the constituents of which were drawn from various different tribes (or from various other castes similarly formed), in virtue of some industry, craft or function, either secular or religious, which they possessed in common. The internal discipline by which the conditions of membership in regard to connubial and convivial rights are defined and enforced, has been borrowed from the tribal period which preceded the period of castes by many centuries, and which was brought to a close by the amalgamation of tribes into a nation under a common sceptre. The differentia of *Caste* as a marriage union consists in some community of function; while the differentia of *Tribe* as a marriage union consisted in a common ancestry, or a common worship or a common totem, or in fact in any kind of common property are formed on Indian soil, most of the industrial classes to which they now correspond, had existed for centuries, and as a rule most of the industries which they practised were hereditary on the male side of the parentage. These hereditary classes were and are simply the concrete embodiment of those successive stages of culture which have marked the industrial development of mankind in every part of the world. Everywhere (except at least in those countries where he is still a savage), man has advanced from the stage of hunting and fishing to that of Nomadism and cattle grazing and from Nomadism to agriculture proper. Everywhere has the age of metallurgy and of the arts and industries which are coeval with it been preceded by ruder age, when only those arts were known are practised which sufficed for the hunting, fishing and nomad states. Everywhere has the class of ritualistic priests and lettered theosophists been preceded by a class of less cultivated worshippers, who paid simple offerings of flesh and wine to the personified powers of the visible universe without the aid of an hereditary professional priesthood. Everywhere has the class of the nobles and territorial chieftains been preceded by a humbler class of small peasant proprietors who placed themselves under their protection and paid tribute or rank in return. Everywhere has this class of nobles and chieftains sought to ally itself with that of the priests or sacerdotal order; and everywhere has the priestly order sought to bring under its control those chiefs and rulers under whose protection it lives. All these classes than had been in existence for centuries before any such thing as caste was known on Indian soil; and the only thing that was needed to

that the Brahman who possessed the highest of all functions—the priestly—should set the example. This he did by establishing for the first time the rule *that no child, either male or female, could inherit the* name and status of Brahman unless he or she was of Brahman parentage on *both* sides. By the establishment of this rule the principle of marriage unionship was superadded to that of functional unionship; and it was only by the combination of these two principles that a caste in the strict sense of the term could or can be formed. The Brahman, therefore, as the Hindu *books inform us, was "the first born of castes".* When the example had thus been set by an ignorant and overbearing priesthood whose pretensions it was impossible to put down, the other hereditary classes followed in regular order downwards, partly in imitation and partly in self-defence. To the nation mesmerized Brahmans and blinded with superstition and ignorance no other course was open. Immediately behind the *Brahman came the Kshatriya, the military chieftain or* landlord. He therefore was the "second born of castes". Then followed the Bankers or Upper trading classes (the Agarwal, Khattri, *etc.*); the scientific musician and singer (Kathak); the writing or literary class (Kayasth); the Bard or genealogist (Bhat); and the class of inferior nobles (Taga and Bhuinhar) who paid no rent to the landed aristocracy. These, then, were the "third born of castes". *In all communities,* such classes must stand rather high in the scale of social respectability, since the stages of industry or *function which they represent are high in proportion;* but in India their rank was more precisely defined than elsewhere by the fact that they made a nearer approach than the caste below them to the Brahmanical ideal of personal dignity and purity. Next in order came those artisan classes who were coeval *with the age and art of* metallurgy; the metallurgic classes themselves; the middle trading classes; the middle agricultural classes *who placed themselves under the protection of the* Kshatriya and paid him rent in return (Kurmi, Kachhi, Mali, Tamboli); and the middle serving classes such as Napit and Baidya who attended to the bodily wants of their equals and superiors. These then were the "fourth born of castes" and their rank in the social scale has been determined by the fact that their manners and notions are further removed than those of the preceding castes *from the Brahmanical ideal. Next came the inferior* artisan classes, those which preceded the age and art of metallurgy (Teli, Kumhar, Kalwar, etc.); the partly nomad and partly agricultural classes (Jat, Gujar, Ahir, etc.); the inferior servant classes such as Kahar; and the inferior trading classes such as Bhunja. These then were the "fifth born of castes" and their mode of life is still further removed from the Brahmanical ideal *than that of the preceding. The last born, therefore, and* therefore the lowest of all the classes, are those semi-savage communities, partly tribes and partly castes, whose function consists in hunting or fishing or in acting as butcher for the general community or in rearing swine and fowls or in discharging the meanest domestic services such as sweeping and washing or in practising the lowest of human arts such as basket-making, *hide tanning, etc. Thus throughout the whole series* of Indian castes a double test of social precedence has been in active force, the Industrial and the Brahmanical; and these two have kept pace together almost as evenly as a pair of horses harnessed to a single carriage. In proportion as the function practised by any given caste stands high or low in the scale of industrial development, in the same proportion does the caste itself, impelled by the general tone *of society by which it is* surrounded, approximate more merely or more remotely to the Brahmanical ideal of life. It is these two creteria combined which have determined the relative ranks of various castes in the Hindu social scale. *Outside the caste system altogether stand the few and* shattered remains of those aboriginal tribes, out of which the whole series of caste was fashioned by slow lines, through the example and under the guidance of Brahmanical priesthood. Had the Brahman never come into existence and had his arrogance proved to be less omnipotent than it did, the various industrial classes would never have become stereotyped into castes, *and the nation would then have been spared a* degree of social disunion to which no parallel can be found in human history. There seems to be no likelihood of castes being banished from Indian soil until Brahmanism itself—the *Fons et origo mali*—has died a *natural death by the rise of the scientific spirit,* and the fallacy of its pretensions has become an object of general scorn. As soon as the Brahman begins to dis*appear the rest will follow.*"

CRITICISM OF HIS THEORY.

It will be seen that Mr. Nesfield's theory *assumes rather than explains.* It is more a classification of castes than an attempt at tracing the origin or evolution of caste generally. It takes for granted what it has to solve. The idea of the essential unity of the Indian race which underlies his theory has yet to be proved. As a matter of fact, what has been studied in connection with the physical anthropology of the Indian castes and tribes *goes against his basic assumption. It is precisely* on this study that Sir Herbert Risley rests his own theory as we will see presently. As Sir Herbert rightly insists, "a theory which included in the same categories the Dom and the Teli, *the Banjara and the Khetri and the* Kayasth must, in the race for acceptance, lose *a good deal of ground at the start.*" Mr. Nesfield's classification, moreover, is based *solely on occupation, and it expresses his con*viction that "function and function only, as I think, was the foundation upon which the whole caste system of India was built up". As we have seen above, occupation alone does *not and cannot answer for the origin of caste.* Mr. Nesfield does not suggest why the groups he mentions, and which he says occur all over the world, became hardened into castes in *India. Why is it that in India alone their* members are absolutely forbidden to intermarry? Mr. Nesfield replies without hesitation that the whole series of matrimonial taboos which constitute the caste system are due to *the initiative of the Brahmans. According to* him, they introduced for their own purposes, and in order to secure the dignity and privileges of their own caste, the rule that a Brahman could *only marry a Brahman,* and all other classes, who upto that time had intermarried freely, followed their example, "partly in imitation

and partly in self-defence". The proposition recalls, as Sir Herbert Risley well puts it, the short way that writers of the eighteenth century were apt to take with historical problems, and reminds one of Bolingbroke's easy assertion that the sacred literature of Egypt was invented by the priests. It is grossly unscientific to assume large ethnological facts or great historical events and Mr. Nesfield's theory does both with an ease which is truly remarkable.

M. Senart's Theory.

Far different is the theory of M. Senart, which is perhaps the most widely known on the subject. It is elaborated at great length by him in his scholarly work *Les Castes Dans L'Inde*. Extracts from it and a general summary of the theory itself are given by Sir Herbert Risley in his *People of India*. Briefly put, M. Senart's view is that caste is the normal development of ancient Aryan institutions, which assumed this form in the struggle to adapt themselves to the conditions with which they came into contact in India. He develops this proposition relying greatly upon the parallelism that may be traced between the social organization of the Hindus and that of the Greeks and Romans in the earlier stages of national development. He points out the close correspondence that exists between the three series of groups *Gens, Curia, Phatria, Phyle* in Greece; and family, Gotra, Caste in India. Going further into the subject, he seeks to show from the records of classical antiquity that the leading principles which underlie the caste system form part of a stock of usage and tradition common to all branches of the Aryan people. Thus, according to him endogamy, the chief characteristic of caste, was not unknown to the Greeks and the Romans. The Athenian *Yeros* and the Roman *Gens* were not unlike the Indian *Gotra*. He points out that no Roman matron who figures in classical literature bears the same gentile name as her husband. At Athens the membership of the *phatria* was in Demosthenes' time, restricted to offspring of the families belonging to the group. In Rome the fight between the Plebians and Patricians in regard to the *Jus Connubi* shows, according to him, how the patricians were endeavouring to guard the endogamous rights of their order. The Roman *Conferratio* has its parallel in the connubial meal so well known in India. As with marriage, so with food. The prohibition on eating with members of another caste or partaking food prepared by a man of lower caste recalls the religious significance which the Aryans attached to the common meal of the household. Cooked at the sacred fire, it symbolized the unity of the family, its life in the present, its ties with the past. In Rome as in India daily libations were offered to ancestors and the funeral feasts of the Greeks and Romans correspond to the *Sraddah* of Hindu usage which, in M. Senart's view, represents an ideal prolongation of the family meal. To the question why the common stock of usage developed in one place castes and in another nations, M. Senart suggests the answer "L'Inde ne sest elence ni a l'idee de l'etat in a l'idee de la patrie. Au lieu de se'tendre, le cadre s'y ressere. Au sain des republiques antiques la rotion des classes tend a se resudre dans l'idee plus large de la cite; dans l'Inde ell s'accuse, elle tenda se circonscrire dans les cloisens etroites de la caste. N'oublions pas quici les immigrants se re'pandaient sur une aire immense; les groupments trop vasted etaient condamnes a se disperser. Dans cete circonstance les inclinatiors particularishes puiserent un supplement de force." Distribution over a wide area, tending to multiply groups; contact with the aborigines, encouraging pride of blood: the idea of ceremonial purity, leading to the employment of the indigenous races in occupations involving manual labour, while the higher pursuits were reserved for the Aryans; the influence of the doctrine of metempsychosis, which assigns to every man a definite status determined by the inexorable law of *Karma*; the absence of any political power to draw the scattered groups together; and the authority which the Brahmanical system gradually acquired—these seem to be the main factors of M. Senart's theory.

Sir Herbert Risley's Criticism.

Sir Herbert Risley urges in favour of M. Senart's view that evolution, especially social evolution, is a gradual and complex process, that many causes work together to produce the final result, and that the attempt to reduce them to a single formula carries with it its own reputation. On the other hand, he points out —agreeing with Dr. Fick—that if caste were a normal extension of the ancient Aryan family system, the absence of any traces of this tendency in the Vedas is hardly accounted for by the statement that development proceeded so slowly, and was based on such primitive and instructive impulses, that we could hardly expect to find any tangible indication of it in a literature like that of the hymns. Very similar criticism has been offered by Dr. A. A. Macdonell and Dr. A. B. Keith. "To assume, with Senart," they say, "that the family was

the basis of caste is difficult in face of the late appearance of words for family and of stress on family." Bougle also criticises M. Senart's theory that the origin of the caste system is to be traced to the ancient Aryan family, pointing out that in many ways the part played by the Aryan conquerors has been exaggerated. Sir Edward Gait, who has recently written on the subject, adds that it may now be regarded as proved that the caste system is by no means an exclusively Aryan product. In the matter of religion also the influence of aborigines is well marked. Many of the Hindu deities are of aboriginal origin; and even the idea of metempsychosis is foreign to Vedic Hinduism. The intense desire for a son as a means of spiritual benefit is far from being peculiar to the Aryan Hindu. It is shared by many races all over the world. Among the Buttaks of Sumatra, for example, "it is deemed absolutely necessary to one's well being, both in this world and the next, to have children, no matter how they are begotten." The ideas regarding purity and pollution are less fully developed in the North of India than in the South, where the population is almost wholly Dravidian.

The Economic Position in India.

By Kikabhai Premchand, M. L. A.*

You know that the greater political *rights India received after the War included* the convention, at least on paper, that in fiscal *matters in which the Government of India* and the Legislature were agreed, the Secretary *of State would not ordinarily interfere*, that his intervention would be limited to the matters *affecting the wider imperial interests. India* has adopted a policy of discriminating protection by means of a permanent *Tariff Board*, to which the Government refers applications from *industries claiming protection* within the well-defined limits laid down by the Fiscal Commission. *In 1924 the first and most important step* in this direction was taken by the protection of the iron and steel industry, which had been built up at Jamshedpur, and which was established in time to render service of immense value to the Allied cause in the Great War by providing the rails and other materials so urgently required in various Eastern theatres of conflict. These vital necessities could not have been obtained from England and other countries except at the cost of serious curtailment of the no less urgently needed supplies of munitions and food. When the protective tariff on steel, at first laid down for three years, was renewed in 1927, provision was made for a basic duty to be paid by all imports, with an additional duty levied on foreign steels not coming up to the British specifications.

Have we not here a striking example of a method of fiscal adjustment which may be applied to other industries under certain conditions agreed to by India? For example, could not the cotton-mill industry of India be protected from crippling foreign competition on these lines? I feel confident that the more such questions are fairly faced in an unprejudiced spirit and with understanding of mutual *needs, the more ready will the Legislature be to* protect Indian industries by such methods. I doubt whether this facility for adjustment has been adequately recognized by the Foreign *Office, to say nothing of other Departments* in Whitehall. It is the failure to make provision *of this kind which has given rise to the idea* largely entertained by my countrymen that, *although India enjoys fiscal autonomy on paper*, she is not actually free to protect her industries in the way that she might desire.

India and British Unemployment.

This brings me back to a proposition made, by inference at least, when I began my remarks, that, in the wide sense of the term, there is no real conflict of interest as between the two countries. A prosperous India is of enormously greater advantage to the British manufacturer and working man than an India drifting to restlessness. With cogency Mr. Snowden, who is now again Chancellor of the Exchequer, pointed out a few weeks ago that the raising of the purchasing power of the average Indian to a very limited extent would be of enormous benefit to British trade. He suggested in the House of Commons on July 9 that the doubling of the purchasing power of the Indian people would increase the export trade of this country by £87,000,000. It is perfectly true that India would purchase more merchandise, and it is an economic factor to which the closest attention should be given. But I think we must go beyond generalities and ask to whom, under the present fiscal arrangements, this trade is most likely to go. I must remind you that foreign countries have a keen eye on the Indian market, and, as I have

* Part of a lecture delivered in London. (Specially reported to this *Journal*.)

pointed out, in the case of textiles, have made very serious inroads into it. Unless, therefore, we pursue the policy of preference which, whilst leaving India free to develop her own industries to the maximum of her capacity, will facilitate the trade in those articles which she does not produce herself, Great Britain may find that even after the most strenuous efforts have been made to develop the Indian trade, the commercial benefits have gone to foreign competitors.

Development of Banking.

One great advantage of the development of banking facilities which may be expected to result from the present inquiry will be the stimulation given to the investment of Indian capital. There has already been striking progress. I am amazed when I compare the amount of Indian capital available for investment to-day with the relatively small amount of money that could be obtained when I first entered my father's business in the year 1900.

The figures, so far as they are available, are so remarkable that it is surprising to find that they have aroused so little attention and comment, but to those of you who would care to pursue this study further, I would invite attention to the illuminating speech made by the former Finance Member, Sir Basil Blackett, when at Delhi, shortly before his retirement, when he gave an impressive record of the growth of the financial strength of India. I can look back on the time when the Government of India, after having raised a loan of Rs. 5½ crores in a year, thought it had achieved something unparalleled. Contrast that with what we see to-day, when a subscription of between Rs. 30 crores and Rs. 40 crores raised in the current year without any special advertising or propaganda, passes almost without notice, as though it were an ordinary event.

Provided that the work of the Banking Inquiry Committee leads to the complete mobilization of the capital resources of India, even now largely inert despite the progress which has been made, I look forward with confidence to the day when India will not only supply all the capital required for her State and other industrial enterprises from her own resources, but will gradually become a considerable investor in overseas concerns. We already see the process at work in the increasing tendency of India to buy back her foreign debt. Unfortunately exact figures are not available, but if they were the extent to which India has purchased her sterling securities would surprise many of you and would furnish an impressive testimony to her increasing financial strength.

Trade Depression.

Your Association has had its attention drawn to recent legislative proposals implying some discrimination between Indian owned enterprises and those which are based mainly or wholly on British capital. If these ideas are unfortunate, it must be remembered that they have come to birth in a time of severe depression of Indian industries, and in the keen anxiety to help them. Rightly or wrongly they are due to a belief that in the past some British conductors of large enterprises have not always been so ready as they should to help Indian interests. It is not unnatural that the Indian business man should have some misgiving as to the growth of large and monopolistic interests not based on Indian capital. I may be permitted to observe that if there is to be forbearance it must be forbearance on both sides, and that the British and Indian conductors of industry and commerce should work together as partners with a single eye to the advancement of India's economic prosperity.

I would correct an impression which I find to exist in some quarters in this country that what may be termed vocal Indian opinion desires severance from the British Empire. With all the force at my command, I would impress upon you the fact that the overwhelming majority of the people, and not least the Indian commercial community in general, have not the slightest desire to see the Imperial partnership brought to an end. What they really want is to promote by every legitimate means the economic advancement of India, and they urge that to this end she should control her own fiscal policy without any interference.

Economic Strength of India.

The tendencies I have indicated seem to me to indicate the rapid growth in the financial and economic strength of India, despite certain weaknesses which must exist in any country of such magnitude and diversity. But, at the same time, they show that, provided the whole of our capital resources are brought into productive use by the creation of an effective means of liquifying our inert capital and by the steady development of our industries through a discriminating fiscal policy, we are assured of the rapid and sustained progress.

Those of us who are engaged in the work of the Statutory Commission have only one object in view: it is to suggest a political organization which, whilst satisfying the wholly reasonable demand of the Indian people for the ultimate control of their own affairs within the Commonwealth, shall maintain, unimpaired, the majestic

fabric of law and order, peace and security, which are indispensable to our national prosperity. We are convinced that if we, or others, succeed in this aim, we shall be building up a fabric which will induce the greater strength not only of India herself, but of Great Britain and of all the partners in the Commonwealth.

Personally, may I say, I hope earnestly to see our Imperial fiscal policy so planned and developed that the increased purchasing power of India, arising from an economic growth, shall be expressed in terms of wider Imperial trade than trade without the orbit of the Commonwealth. To these questions I have ventured to invite your attention, and I would only say, in conclusion, that their careful and unbiassed prosecution must be the means of adding not only to the prosperity of India but the Commonwealth and the world.

Co-operation in Madras, 1927-28.

By Rama Banajiga, B.A.

The Report of the Co-operative Department for 1927-28, is reviewed at length by the Madras Government in a recent order issued by them. The Committee which was appointed by Government in September 1927 to enquire into the present state of the co-operative movement in that Presidency and to suggest suitable measures for effecting the necessary improvements, presented their report in January 1928 and the report was published on 21st February 1928. In view of the many doubtful issues raised by the Committee in respect of recent developments and of the clear indication of the necessity for re-organization, the Madras Government asked the Registrar to direct for the present his entire attention to the re-organization of the movement and not to its further development and to concentrate on matters which were of vital importance such as the recommendations regarding supervision, inspection and the staff to be provided by Government. The proposals of the Registrar based on the report of the Committee are, it is stated, still under the consideration of Government.

During the year 1927-28, the number of societies increased from 13,357 to 14,510, a percentage increase of 8.63, and the number of members increased from 830,522 to 898,186, the increase being 8.15 per cent. The average number of members to a society was 64 as in the previous year. Of the total number of members at the end of the year, 539,699 were agriculturists, 259,151 were non-agriculturists and 99,336 with mixed occupations, the corresponding figures for the previous year being 497,940, 242,054 and 90,528 respectively. The number of societies composed wholly or mainly of Adi-Dravidas and Adi-Andhras increased from 2,087 to 2,662.

There has been a satisfactory increase in all cases under share capital, reserve and working capital and the percentage of owned capital to working capital works out to 18.35 against 18.31 in the previous year. Special deposits by local boards, municipalities, etc., formed 35 per cent of the total working capital of central banks.

Societies are broadly classified as agricultural and non-agricultural, each being sub-divided into credit and non-credit societies. Agricultural credit societies increased from 11,000 to 11,966. Of the agricultural non-credit societies, there were 127 societies for purchase and purchase and sale as against 116 in the previous year. There was an improvement in the transactions of these societies, the value of stock sold being Rs. 1,55,777 against Rs. 1,51,429 in the previous year. A few of the societies undertook the sale of members' products for commission to the extent of Rs. 5,32,463 against Rs. 3,49,717 in the year 1926-27. The purchase of members' products, however, fell slightly from Rs. 1,58,773 to Rs. 1,53,315 The Registrar has indicated the transactions of a few loan and sale societies in paragraph 55 of his report. To the eleven milk supply societies referred to in the review on the previous year's report, nine more were added during this year. Every district has now a senior inspector to look after non-credit work under the control of the Deputy Registrar. In addition, ten junior inspectors are attached to selected loan and sale societies for their supervision and intensive work.

The number of non-agricultural societies increased by 6.13 per cent, from 1,501 to 1,593. One thousand one hundred and thirty-five of these societies were credit. Amongst the non-credit non-agricultural societies, were 165 stores societies. The value of stock sold by these societies rose from Rs. 21.98 lakhs to Rs. 23.38 lakhs and the net divisible profits increased from Rs. 43,085 in the previous year to Rs. 55,105. The question of improving the working of weavers' societies has been engaging the atten-

and a proposal to appoint a textile expert for this special work recommended by the Madras Committee on Co-operation is at present under consideration.

The number of supervising and audit unions increased from 366 to 392 during the year excluding three propagandist unions and nineteen district federations. The principle of granting subsidies to district federations to enable them to conduct training classes for panchayatdars and office-bearers of primary societies has been extended to all the federations. In addition, the Madras Provincial Co-operative Union continued to receive a subsidy of Rs. 1,200 for the training of co-operative workers, and the Hood Co-operative Institute, Tanjore, has also been granted a subsidy of Rs. 1,000 for a similar purpose. The Government are glad to note that regular classes have been opened at different centres to give systematic instruction to the paid staff of co-operative workers. The proposal to grant increased subsidies to meet the cost of running these schools is under consideration.

There has been an increase in the number of suits filed while there has been a marked decrease in the number of arbitration references. The question of devising suitable measures to expedite the realization of co-operative arrears is said to be under examination.

The Madras Government place on record once again their thanks to the increasing number of honorary workers who have willingly given their time and energy to the development of the movement and the authorities of the Imperial Bank of India for their valuable advice on financial matters.

They also place on record their appreciation of the arduous and successful efforts of the Registrar, Mr. Hood, for re-organizing the co-operative movement on a stable foundation and thus enabling the movement to develop on sound lines.

Co-operation and Credit.

By Babu Jitendra Chandra Chakraverty,
Manager, The Traders' Co-operative Bank, Patna.

Currency is most frequently used to denote the circulating medium in a country. Everything (money, standard or token) which transfers credit and which is accepted as such transfer is a part of the currency of the country. A coin or paper money, witnesses that you have rendered a service to the society and moreover states the value of it and that it is in your power to receive a service again. It is an order of the state, a silver piece, a promise to pay which authorizes the bearer thereof to receive an equivalent service which he has rendered before. Similar is the case with Bills of Exchange, Drafts and Cheques as pointed out above. They represent debts which exist on credit.

India is a Gold-Exchange Standard country as different from other important and commercial countries of the world. Her token money consists of paper notes and silver rupees. And for the purpose of maintaining the value of the token currency the Government of India holds two reserves, the Paper Currency Reserve and the Gold Standard Reserve.

It is known to all that the issue of the Paper money including the bills and cheques drawn by the existing banks is issued on the basis of the gold in the country, because all of them are ultimately convertible into cash. It does not, however, mean that gold is kept in reserve for the full amount of the paper money issued. On the other hand, some reserve sufficient to meet every possible demand is all that is kept by these institutions.

A study of the working of the existing banks reveals how greatly they supply credit to the world. The system of drawing Bills of Exchange supplies a form of international credit and the system of Cheques supplies a form of national credit. In practice the exporter draws a bill on a financial house who accepts the same and renders the same generally acceptable because of its reputation. The importer, however, makes an arrangement with the financial house by giving it security against loss and paying them for the use of their name. Thus the exporter is not to wait for months for the payment to mature, and, in the meanwhile, the paper passes freely between parties other than the drawer and the drawee.

Then, let us look how the credit is created by the banks. -- While deposits and advances are not identical from the point of view of the individual or the bank, from the point of view of the banking system as a whole, deposits and advances are largely identical. Of the deposits the whole is not drawn in any day or drawn without notice, and, on the advances made by one bank the customer draws a cheque and when he requires he draws by a cheque

and of which another person becomes the holder. So, generally speaking, the advance made by one bank becomes a deposit in another bank or in the same bank. In the one case, the claims are cancelled through the clearing house, and in another case, it involves two entries in the books of the same bank.

It is to be noted here that this credit forming the basis of all enterprises, more or less, was a monopoly of the corporation or Joint Stock form of business and of individual investors, in short, of the fortunate few. And it is the Co-operative movement that has broken down the monopoly by paving the way for the growth of the democratic forms of organization for the democratization of credit, for the relief of distress, for the creation of wealth, for the turning to account of industrial and agricultural opportunities among the poor.

Under this movement the labourers unite, the producers unite, the traders unite,—all in a bond of common interest, with a realization of their responsibility, each within his own group working for his better gain. By labour we mean any exertion, physical or mental, for the creation of utilities. Co-operation includes the organization, the harmonious union of all the agents of production. Man is the active agent. It is he who makes the different forms of production. He supplies labour and capital and nature (land) plays a passive part. This Co-operative movement is a tendency, a force, for the association among the weaker and poorer classes originating among them a spirit of common interest for the purpose of joint trading or effort at better production. So it includes labourers (producers), consumers and borrowers who join hands for a common purpose within their respective groups having an intimate knowledge of one another, to remove grave economic and social evils. Thus, we see that in principle co-operation stands for organization, for economic uplift of the mass who form the backbone of the nation.

That this ultimate dependence on gold, as detailed above, can be done away with by the most willing co-operation of the people, seems to be beyond doubt. In fact the Co-operative movement—the common bond of interest, the consciousness of their own self, the knowledge of one another—can certainly be made to take the place of this gold which yet under present condition is still necessary to maintain the currency of the present-day paper money.

From what has been said of money it will be seen that there are circumstances in a high state of civilization under which it is possible to conceive of business being carried on without the aid of money. If men could rely implicitly upon one another and that if it were absolutely certain that a right which had been acquired, would be generally recognized and its indefinite transfer permitted, the world might exist on credit. This possibility, this high state of civilization, this implicit reliance, is afforded by the true co-operation of the people.

In this connection the history of the War Money of England may shortly be sketched to clear our point at issue. On the appeal of the Chancellor of the Exchequer, the people of England, out of a sense of patriotism, very largely complied and gave up the habit of using gold with the result that for the time being gold practically disappeared from circulation in England and the government had millions of gold for the use of the government—the nation—free of charge. The people of England were no worse off, they had just the same amount of paper money in their pockets as before and once they got used to it they found that the paper money served their purpose quite as well. The country's gain was, therefore, secured at no loss to any one. So it is easy to realize what co-operation—a hundred times better force than a timely appeal—can do in the matter of paper currency. So far then it is clear that co-operation, the true union of the people, most intensive in character, can do without the use of gold as the basis of this paper money—the basis being, in that case, replaced by the common bond of interest, the faithful reliance and joint effort at better production and better gain.

It may not be well here to overlook the question to what extent can paper money safely be issued. With certain reservations, the reply is just in as far as it sets bullion free for other productive purposes to the extent of the metallic coinage already in circulation which it displaces. Unlimited or illegitimate Paper money is not considered here.

The Paper money thus issued under the Co-operative movement may be made a legal tender among the people subscribing to the agreement.

The theory of co-operation as detailed by the report of the Committee on Co-operation in India, is, very briefly, that an isolated and powerless individual canf by association with others and by moral development and by mutual support, obtain in his own degree the material advantages available to the wealthy and powerful persons, and thereby develop himself to the fullest extent of his natural abilities. By the union of forces, material advancement is secured and by united action self-reliance is fostered,

and it is from the inter-action of these influences that it is hoped to attain the effective realization of the higher and more prosperous standard of life which has been characterized as better business, better farming, and better living.

The present-day figures which the movement commands within this short period from its inauguration are an unfailing evidence of the future which true co-operation can aim at. Different forms of organizations have already grown up. To mention, very briefly, there are agricultural societies, traders' societies, carpet-makers' societies, shoe-makers' societies, besides other associations for the supply of credit in Behar and Orissa. There are Anti-Malarial societies, Irrigation societies, Artisans' societies, Milk societies, Stores and Supply societies, Fishermen's societies besides other credit institutions in Bengal. In the Punjab we find Thrift societies, Compulsory education societies, societies for the supply of agricultural implements and household necessaries, Silt clearance societies, Cattle-breeding societies, Marketing societies, societies for the consolidation of holdings, besides other credit supplying institutions. In the Presidency of Bombay we also find a noteworthy feature of the movement in its application to the problem of industrial production in the form of Weavers' societies. The excellent share model system has already been set on foot in Sind. It is there that the agricultural societies hold as their own about 42 per cent of their total working capital. Next comes the presidency of Madras which presents an animated scene of co-operation. There are labour organizations. In the beginning of the year 1926 there was 38 such societies of labourers whose object was to find work for their members, and, in that year the societies secured contracts worth Rs. 2.81 lakhs and the work actually completed within the year was valued at Rs. 2.44 lakhs. There are societies for the reclaiming of land, land mortgage banks which supply the long term credit, and Scavengers' and Sweepers' Societies. It is a point of great interest to note that 43 societies of such scavengers and sweepers had in the beginning of the year 1926 a paid-up share capital of Rs. 32,244.

From the above short sketch it can well be gauged what immense good can be derived from these different petty unions and thousands more of them when organized and worked on co-operative lines—principles which mean the application to our economic life of the maxim that unity is strength. By their mutual help, their joint effort, these unions are able to increase their assets, material and moral. The production is increased by the supply of easy credit and by the diffusion of better knowledge and the labourers find favourable employment. The credit associations are able to invest their own funds, secured through the savings of their own people and by gaining the affections of the people outside and near the movement funds which were unproductive before for their own advancement. The consumers have a chance of better purchase. The producers including the labourers secure efficiency and the net receipt per head increases. There are no labour disputes, on the other hand, there is a greater continuity of employment. The savings encourage thrift, and thus saves the poor from the clutches of the Mahajan. The productivity of capital is ensured. The consumers enjoy the profits, consume pure goods with less expense.

It is a truism to add that there is an enormous producing power among the poor agriculturists, the weak labourers a power which is still allowed to run to waste or to no gain, to the loss of the nation for that want of organization which acting as a spur to the receptive capacity of production, can be relied upon to drive it into healthy and wealth-producing life. Co-operation teaches us how to organize, how to bring about the complete regimentation of the poor and oppressed for an effort at better living and better gain. In this way it increases employment.

India is a continent herself. She is rich in her resources and opportunities of industrial development. Her people have not to depend on outsiders for the necessaries of their life. So, if the people unite themselves in many different associations and in many different directions for their own advancement, then by so doing, they would be naturally working for a higher goal, the union of the people as a whole.

Agriculture is the chief industry of India, and there are millions of poor labourers who deserve a much better consideration at the hands of the fortunate few. And it is for these weak and the needy that organization will work wonders. The Provincial Co-operative Banks acting as the apex institutions to their own Central associations who in turn have the care of hundreds of smaller unions at the base, may be made to work as branches of an All-India Bank acting as the friend and philosopher to all the people through the provincial heads. The ultimate authority may be vested in the hands of a Committee consisting of the representatives from all the provinces. This central institution should be made the financial head in the country with powers to control the money market of the country for the benefit of her people. Thus banking in India will be centralized, and the poor agriculturist, the weak

labourers, the petty consumers, working at the very base, will be working under the *consciousness* of a bigger and greater India.

Co-operation is not foreign to the people of India. That the entire fabric of our village community was once built upon genuine co-operation, that the members of the village community contributed their share to the total production with a mutual interest and common purpose cannot be denied. What is needed is *the exploitation of* the true co-operative principles to suit modern conditions, to remove the unfathomable poverty of the Indian mass. For internal circulation the paper money issued by the people (under the All-India Bank) may be circulated to the thousands of unions and societies through the provincial banks. But *this money must be invested for some* productive purpose and as the people require. otherwise, unlimited and unwarranted issue and supply of the same, will lead to the deflection of the currency whereby the sufferings of *the people will increase rather than decrease*. Thousands of societies and unions should come into being and these should embrace all the different kinds of activities of man producing some sort of utility. The poor producer must be taught to know that he is, after all, a man, a living image of God and that he has as good a claim to the *comforts of life* as it lies within his power to achieve.

If the people realize this idea of self-sufficiency and complete the regimentation of the people for their honest joint effort, then they will create sufficient assets that will find employment for their own people and unify them. Confidence and reliance on one another will be the basis of their exchanges and the intrinsic *value of the metal*, one of the characteristics of money, will be replaced by their honest, sincere, productive effort. *

Mysore Elementary Education Regulation.

[*The following note issued by the Board of Education, Mysore Economic Conference, sums up the points that still require consideration in regard to the above draft Regulation. —Ed., M. E. J.*]

A draft of the Elementary Education Act for the State, submitted to Government by the Board of Education on 17th February 1928, was placed *before the Economic Conference for* consideration at its session held in February 1928. After a full discussion of the main principles underlying the scheme and the general lines outlined therein, the Conference generally agreed as to the need for a comprehensive measure of this nature and accepted the goal of *universal, compulsory and free elementary* education to be reached by progressive stages, the desirability of transferring to local bodies the control of elementary education and the responsibility for its management, consolidation, expansion and development, subject to conformity with the standards to be prescribed by *Government to ensure efficiency* of work in schools, the necessity for constituting an elementary education fund for each local authority and the suitability of the relative financial responsibility, as defined in the draft, of the State and local authorities in regard to the further expansion and development of elementary education.

One of the points which emerged out of the discussion appears, however, to require further consideration. It was pointed out that the draft act (para. 18) provides for the preparation of a graduated programme of educational expansion so as to provide for a sufficient number of school places to accommodate all children of school age in villages with a population of 500 and over, in the first instance, and subsequently, within a reasonable period, in all villages with a population of 200 and over. It was contended that under the scheme larger villages, say those with a population of 500 and over, would receive first attention and get the benefit of full educational provision and only *after their needs were fully satisfied*, the smaller villages would have their turn, while paying all the time towards the cost of elementary education, not only the present education cess but also the additional cesses that might be levied under the scheme. The whole position was inequitable inasmuch as the smaller villages would have to pay to meet the educational needs of larger ones for a considerable period. The rural population even now complained that while they paid the education cess and made a relatively greater sacrifice, their educational requirements were very inadequately met while towns which contributed very little towards educational expenditure got a substantial share of the educational benefit.

While the unfairness of the position is

* Hamilton Competition Essay. (Won Second Prize.)

obvious, it should be noted that for any systematic programme of expansion some stable and objective basis has to be adopted. The keenness of the people in any particular area is an intangible factor and difficult to measure and the financial ability is perhaps an unsound basis. The population of the villages has therefore to be adopted as the only objective basis in any scheme of comprehensive expansion. That is the basis adopted in some other parts of India and in the Education Memorandum.

A possible solution of this difficulty would, however, be to have a smaller unit of control. It might be suggested that the village panchayat being the unit of local Self-Government should be entrusted with the control of education so that the requirements of smaller areas might be properly met in a scheme of expansion and not lost sight of as they are likely to be when such areas form elements of a bigger unit of control as the district. In the early history of elementary education in England, there were Parish School Boards created by the Elementary Education Act of 1870 which were *ad hoc* bodies elected by popular vote in each parish. If the village panchayat is to be the unit of control, the district authority under such an arrangement will have to be charged with the responsibility of co-ordination and initiation in matters affecting the interests of the district as a whole. But it is greatly to be doubted if the village panchayats at the present stage in the development of local Self-Government in the State are in a position to deal effectively with the problem of the expansion of elementary education, not to speak of other obvious disadvantages inherent in an arrangement which entrusts small units with control. The control vests in all British Indian Provinces in the District Board and even in Madras, where Taluk Boards control elementary education, it has been recommended that District Boards and Municipalities should become the agencies for the control of elementary education.

Another solution appears to be to group all villages on a population basis into a number of classes, say 5 or 6, and to leave it to the district elementary education authorities to select for each stage of expansion a certain number from each group so that deserving villages might have equal chances of participation in the scheme of expansion irrespective of size. It appears to be difficult to fix beforehand the number to be selected from each group irrespective of the requirements of each case and on the other hand, if the number is not fixed by rules but left to the discretion of the district authority, the chances of equal justice being done to smaller places are likely to be jeopardized. There is another point also which seems to require further consideration. Para. 22 of the scheme fixes the ratio of the State and the local contribution for all additional recurring and non-recurring annual expenditure under the scheme as 3 : 2. Although this is more liberal from the point of view of the State than the statutory ratio obtaining in some other parts of India, a uniform ratio for all districts tends to encourage the rich districts at the expense of the poor and thus to accentuate the difference between the educational progress of different districts. In the Punjab, Government grants are assessed with reference to the needs rather than the resources of each district and the districts are graded in accordance with this principle. To rich districts 50 per cent of its approved additional expenditure is given but to poor districts anything between 50 and 90 per cent is awarded. This policy is reported to have resulted in considerable progress having been made in many districts which used to be classed as backward.

Criticism against the Directors of Sir W. G. Armstrong Witworth and Company, Limited, was levelled by stockholders at a meeting held to approve a scheme for the reduction and reconstruction of the Company's capital.

One debenture-holder asked the Directors: "Have you taken steps or are you going to take steps to make those responsible for this tremendous loss of over £14,000,000 pay something towards this wreck?"

Replying, Sir Ernest Roney, solicitor to the Company, said they had no legal remedy against the Directors, who were honest but foolish.

The Directors, he said, had a keen interest in the success of the Company, but the business they had embarked upon had turned out to be bad.

During the discussion a voice from the body of the hall called out "The Bank of England is taking everything."

"That is a fallacy," replied Sir Ernest Roney.

The scheme was approved by the necessary majority.

Professor John Coatman, B.A. (Manchester), B.A. (Oxford), since 1926 Director of Public Information to the Government of India, has been appointed to the University Chair of Imperial Economic Relations tenable at the London School of Economics.

Museums and Education.

By The Editor.

Dr. Gravely's report on the working of the Madras Museum for 1928–1929 refers to an aspect of the utility of Museums in the educational system of a country. How could teachers in schools be trained to use a Museum as an aid to their work? Dr. Gravely appears to have tried what he describes as "Demonstrations" in the Museum itself conducted under his auspices. After some years these were dropped and teachers were encouraged to bring up their students and themselves conduct them round the galleries on a fixed day in the week, such assistance as they might require being given to them in regard to any special points raised by them or in regard to any particular specimen. Dr. Gravely thinks that Madras teachers have as yet scarcely begun to learn now to make real use of the Museum as an aid to their work. He says he is in consultation with the District Educational Officer, Madras, to find out the best mode of making known the educational possibilities to teachers and pupils of the elementary and secondary schools. That is a move in the right direction. There should be, in our opinion, a better and more constant use of the Museum by teachers and pupils, if the Museum is to prove something more than a mere place of sight seeing. A better correlation of the contents of a public Museum with the needs of schools and colleges would, perhaps, help in the evolving of a *modus operandi* in this matter. The formation of a pure Educational Section in the Museum might possibly pave the way for a better appreciation, if not actual utilization, of a Museum in the school world. We should think that the authorities of the Bangalore Museum and the Mysore Educational Department should carefully watch the Madras experiment and see how they could benefit by it. There is a kind of Educational Museum in Bangalore but it is a question if its existence is known beyond a very narrow circle of teachers. It is to be hoped that steps will be taken to better make known its existence in order that it may serve the purposes for which it was intended.

Notes from London.

New Philosophy of Business.

London, 17th August 1929.—Mr. Julius H. Barnes, the famous American banker, who sailed for the United States on August 15, is an ardent advocate of what is known as the new philosophy of business. He attributes American prosperity less to the natural resources and relatively small population of the country than to the general adoption of new methods, the universal invocation of machinery, the facilities for rapid communication, efficient transport and the application of power energy. To-day 75 per cent of American factories are electrified. There are in the country 25,000,000 automobiles and 19,000,000 telephones. Meanwhile it has to be remembered that ore to reach the Pittsburgh furnaces travels 100 miles on rails, 1,000 miles on the Great Lakes, and then another 150 miles by rail. The products are sent 400 miles by rail to the Atlantic seaboard for export. It is obvious that such natural handicaps can have been overcome only by inventive genius and organization.

Tariff Issue on America.

Could the United States maintain its prosperity without the tariff? Mr. Barnes explains that though originally intended to foster and protect infant industries during their period of growth, the tariff to-day serves to protect the high standard of living of the community. High wages are paid, and in consequence the home market is of great importance to industry, but the American nation sees clearly that it cannot allow the products of cheap labour to compete with the products of its own well-paid workers without endangering the whole structure. Meanwhile the adoption of labour-saving machinery does not entail unemployment, because the men whose services are dispensed with can find other work and are not restricted by trade union rules as they are here to employment in the same occupation. So long as there is a vast sum spent abroad by tourists—it is estimated to amount to £140,000,000 a year—and Americans will purchase foreign investments, there seems no reason to apprehend any grave consequences, but if either of these activities ceased the position would certainly become interesting; and meanwhile America is collecting a large part of the world's gold.

Steel Industrial for San Francisco.

The promoters of the scheme for the establishment of a giant steel company in the vicinity of San Francisco have made

considerable progress with their plans for the proposed enterprise. Surveys of the available ore resources in the district and the most suitable sites for the erection of plant have been carried out on a scale that has involved the expenditure of something like £100,000, and the promoters are satisfied that iron sinter and finished steel products can be profitably produced for export through San Francisco Bay. The coal, of course, would have to be imported, and one possible source of supply would seem to be South Wales by way of the Panama Canal, though in case of need American coal would be available. The area is rich in other minerals, including gold, silver, copper, lead and mercury, and there are deposits of iron pyrites and chromic iron ores between Carson City and Sacramento. Naturally, the development of a great basic steel industry on the Pacific Coast would be an event of considerable importance since it would doubtless attract others and add to the immense existing wealth of the West, while the geographical advantages of the site for supplying the Far Eastern markets are revealed by a single glance at the atlas.

Mastery of the Pacific.

Needless to say, further news of the enterprise will be awaited with considerable interest, not only in this country and in Japan but in all the steel-producing centres of the world, for the venture looks like another step—this time economic—in the long struggle for the mastery of the Pacific with which the ultimate fate of the world is so closely linked. Meanwhile it is claimed by those connected with the proposed enterprise that the reports of their expert advisers are most encouraging. Attention has frequently been directed to the "Golden West" as a market for all goods of super quality, and in spite of the high prices at which imported luxuries must necessarily be offered there is no doubt that larger sales might be effected if British firms making the best goods devoted more attention to it, though there is little or no opening for the ordinary wares of commerce. On the West Coast it is pre-eminently true that quality counts.

Industry and the Air Mail.

The question of the greater use by industry of air mail services has been engaging the attention of the Federation of British Industries during recent weeks, and some of the conclusions which have been reached have been embodied in a letter addressed by Mr. [illegible] to the Director of Civil Aviation. The federation are of opinion that the fullest possible development of the use of aeroplanes in connection with speeding up mails to and from Australia would be of the greatest benefit to British trade. They also draw attention to the question of overnight air mail services to European centres such as Berlin, Copenhagen, Vienna, etc.; it would be a very considerable advantage for firms transacting business with such centres if a night air mail were established which would permit of letters being posted up to a late hour in London and delivered at their destination early the next morning. The federation urge that in addition to ordinary postal packages the greatest facilities should be offered for the despatch of samples and similar goods by the air mail. They suggest that consideration should be paid to the issue of an air mail stamp, a system which is already in force in many countries, and conclude by stating that more publicity should be given to existing facilities, which are not always present in the minds of business men conducting foreign trade.

The Aero Exhibition.

The number of flying events in Great Britain this year, ranging from the opening of the England-Egypt-India service and the display at Hendon to the coming Schneider Cup Race, combine to make 1929 a landmark in aviation, and it is peculiarly fitting that this should have been the period chosen for the International Aero Exhibition at Olympia. It is nine years since the last exhibition in London, and in the interval the progress in the science of aviation has been remarkable. The exhibits at Olympia show the latest chapters in the history of the development of flying, and, it may be said at once, are a veritable revelation of the triumph of an industry which is only about twenty years old, if one goes back to its really serious beginnings. The Exhibition is naturally attracting crowds, but it is not yet drawing the multitude that it will when flight has really caught the public imagination. What is said of the Motor Show that it fills London will be said in subsequent years of the Aero Exhibition.

So far the progress of flying has been on very much the same lines as the development of motoring (which, be it added, only dates from the 'nineties) with this exception that the advance in aviation promises to be much more rapid. It was not until recent years that the motor manufacturers began to produce the cheap machine. The aeroplane manufacturers

are on view at the Exhibition at no greater price than £370, and no doubt in subsequent years prices will be steadily reduced until the point is reached when every person who can now afford a motor-car can turn to flying instead. It may be said that the day of popular flying is still far off, perhaps a generation or two. To that view I can only reply that it is impossible to visit Olympia and seriously maintain such a proposition. If the Exhibition demonstrates anything, it demonstrates beyond argument that aviation has now passed the stage when only the specialist could participate in it, and that it is nearing the point when it will be as popular a pursuit as motoring is at the present time. It is very probable indeed that aviation has in store for it in this county, at any rate a greater measure of popularity than is possible for motoring.

EMPIRE'S RESOURCES.

It is often forgotten that agriculture remains the one great permanent industry the foundation of all wealth. Sir Robert Grieg, President of the Agricultural Section of the British Association, emphasized this fact in his recent address at Pretoria, and many of his statements are very striking. It is an astonishing fact that Great Britain and Northern Ireland produce more agricultural wealth than Australia, and yet Great Britain annually imports £330,000,000 worth of grassland products, only half of which comes from the Empire. Of the total land surface of Canada, India, South Africa, Australia and New Zealand, less than 9 per cent is under arable cultivation. Sir Robert Greig showed that 44 per cent of the world's cattle graze on the pastures of the Empire and 38 per cent of the world's sheep. In fact, the Empire supports 500,000,000 animals, but he declared that their value would be more than trebled if these animals were suited to their environment, free from disease and sterility and sufficiently nourished. It is clear that the task of developing the Empire's resources is only beginning.

AUSTRALIA'S PRODUCTIVITY.

The productivity of Australia is the subject of a striking statement issued by Major-General Sir Granville Ryrie, High Commissioner for the Commonwealth. He points out that the number of sheep in Australia is now over 106,000,000, the season's wool clip exceeding 950,000,000 lbs.; that last season a record area of 14,500,000 acres were sown with wheat, the harvest exceeding 160,000,000 bushels, which is only 12½ per cent less than the highest yield ever recorded; that while five years ago no rice was grown commercially in Australia the harvest this year is about 25,000 tons, leaving an exportable surplus; that half a million tons of sugar have been produced this season; and that in various other directions output has been increased although conditions have not been particularly favourable.

RECIPROCAL BENEFITS

Such figures indicate in a very effective manner the steady progress that the Commonwealth is making, and Sir Granville Ryrie emphasizes that remarkable as they are the resources of that great continent have been tapped to only a small extent. "There is" he states, "unlimited scope for the further investment of British capital and of British man-power". The Mother Country will benefit as the wealth of Australia is unlocked. During the past three years, the Commonwealth has purchased from the Motherland goods, almost wholly manufactures, to the value of £185,000,000. But Sir Granville draws attention to the fact that Australia's ability to buy the goods of this country is governed entirely by the degree to which credits can be established here—preferably by disposing of her primary produce in the home market. There will be general agreement with him in his statement that the people in both countries "have everything to gain by working for a rapid increase in British-Australian trade which has the particular merit of being almost wholly complementary."

THOSE YOUNG MEN IN A HURRY.

"The fortunes of old fell often to those who, content to begin life on the lowest rung of the ladder, climbed steadily to the top," writes Sir Max Pemberton in the *Evening News* of London.

"This slow-motion picture has charms for few to-day. Young men come to me and say, 'I am with So-and-So's, and I can stop there if I like. I get two hundred and fifty a year, and if I wait I shall get more; but I can't stick that, of course. What I want is something which will bring me at least five hundred a year now. Do you think you could get me a job like that?'

The answer, I am afraid, is invariably in the negative. The "non-stop" youth is the curse of the City and the author of much of its discontent. Men work complainingly for one firm while planning how to get employment from another. The idea of steady advance is obnoxious to them. They must have movement, change; they must be on the new road always—though heaven alone knows what their goal may be.

Science, indeed, has made us what we are and there is no turning back. We race through life and even in our sleep we dream of movement anew. Different occupations, new houses, new cars, new records, the perpetual *va et vient* which this twentieth century has imposed upon us—to such are we condemned. Nor may any man dare to prophesy what the outcome of it all is to be. Leisure and repose are vital alike to clear thought and to achievement. I wonder sometimes if the youth of our time really think seriously about anything at all unless it be of the money which this ceaseless movement does not win for them.

They are racing.... but is not their way down the hill? And who shall help them if the brakes of reason fail them and the end of it all is the stone-wall which even the "super-charged" will not surmount!"

WATER POWER IN SWITZERLAND.

In January 1927, the rating of hydro-electric plant installed or in course of erection in Switzerland was given as 2,220,000 h.p., made up of 1,859,000 h.p. installed at the end of 1925, 41,000 h.p. put into service in 1926, and 320,000 h.p. building. In 1925 140,000 h.p. were installed. According to a report by His Majesty's Minister at Berne, the present development represents about one-fourth of the total power resources of the country.

The power output of Swiss electric works in 1926 is paced at about 4,000 million kwh., or roughly, 80 per cent of the maximum available output. Power and light absorbed 2,250 million kwh., about 775 millions were exported, and a similar amount was consumed in the electro-chemical and metallurgical industry, whilst 200 millions were used for traction. Atmospheric conditions were fairly favourable for power poduction. A large station working on accumulation and completed in 1925, afforded valuable assistance in tiding over a period of drought at the end of the winter 1925-26. Exports of power are being looked upon as an increasingly valuable source of national revenue, and the steps taken by the Federal authorities in 1924 to bring about a more healthy state in export conditions are now bearing fruit. Considerable care is exercised by these authorities in issuing export licenses. Contracts on an exchange basis were concluded in 1926 by some power companies for the export of surplus summer output and the import in winter of power produced by thermic stations abroad.

HEALTHY LIVING.

Mr. John Hall, lecturer organizer, Merseyside Borough Health Education Committee, reading a paper on health education at the Congress of the Royal Sanitary Institute, reported in the *Yorkshire Post*, defined some of the aims and objects of health education as :—

"(1) To establish the idea of the sacredness of life.

(2) To eliminate fears and superstitions.

(3) To endeavour to develop an historical as well as an evolutionary sense, which will bring a spirit of optimism and of purose into life, and help folk to live and work for the next generation.

(3) To teach the marvels and wonders of the animal body (not merely the human).

(5) To seek to show that life is a great adventure and to contemplate life and not disease.

(6) To teach the laws of healthy living—in the individual, the home, the factory and city.

(7) To demonstrate the working of the Public Health Departments and to stress the need for personal and communal co-operation.

It was much more effective to a popular audience to know.

(1) That there are some 12,000 miles of blood vessels in the human body than to know the names of even the main arteries and veins.

(2) That the main vital functions operate through a series of wonderful tubes, A.B.C.D.E. F.G. (air tubes, blood tubes, body cavity, dorsal tube, ear tube, food tube and germinal tube), rather than the usual details of the various anatomical systems or the minute structure of a decaying tooth or the microscopic miracles of the texture of the skin.

Incidentally, these tubes were so constructed that given anything like a chance they would keep themselves clean and healthy and so function normally.

The interesting point was not so much why they go wrong but why they work at all."

The Eiffel tower is forty years old, and to mark the fortieth anniversary of its completion, a bust of its designer, Gustave Eiffel, was unveiled at the base of the tower by Monsieur Germain Martin, the Secretary for Posts and Telegraphs on May 2nd. Still the highest building in the world (thank goodness), the tower has amply paid its way. The cost of building it was repaid in six months, and the "concern" now pays a dividend, we are told, of about 20 per cent. During the forty years of its existence nearly 14,000,000 people have made the ascent.

Economics in the West.

America as Debtor and Creditor.

London, 31st August 1929.—To a worker in the field of economics one of the thoughts that sweetens the passage of the years is that day by day the world is becoming more fully equipped with accumulating and improving records. To this result the United States Department of Commerce makes regular and voluminous contributions, not the least instructive of which is comprised in its estimates of the innumerable groups of items entering into the sum total of America's transactions, on public and private account, with other countries. The estimates for 1928 have now been published and their presentation reveals once again an admirable readiness to abandon old methods in favour of better, sparing no pains to render the results as accurate as possible and as technically sound as circumstances will permit. With the best will in the world, however, with almost unlimited personal and financial resources, and with the wealth of data available—far exceeding that in any other country—the estimates remain nothing more than estimates, and in some instances little more than guesses. Consequently, while America's balance of payments is on record in greater detail and in a higher degree of accuracy than for any other country, it must not be supposed that perfection has yet been reached. Perfection, true, must be regarded as a relative term, and the American estimates come very near that definition if account be taken of the natural limitations still existing.

The following table (*vide* p. 448) shows the principal items entering into the American balance of payments in the past two calendar years. They have been divided into four groups, two of which are clearly allied, one quite distinct from these two, and one a marginal group. The figures relating to movements of goods, together with the so-called "invisible" items, grouped under the heading "Other Current Items" make up the *current account*, which comprises a record of incomings and outgoings. The credit surplus on this account represents an accretion to the country's net claims upon other parts of the world, while the direct estimates of changes in the amounts of these claims and of their off-setting debts are shown under "Capital Movements". This grouping is adopted upon just the same principle as should govern an individual's personal accounts, for these too, as is generally recognized, should show the direct relationship between purely current income and expenditure in order that a residual balance may be arrived at which represents an addition to or subtraction from the individual's material capital. As distinct from these clearly distinguishable groups of items, gold transactions, which are also separately shown in the table, are of a mixed character. They enter into the current account in the sense that gold movements sometimes take place because of a maladjustment between claims currently falling due against a country, and immediate claims of that country against the rest of the world. On the other hand, gold transactions are capital movements in the sense that gold itself is real capital, from the possessor's point of view, and in the sense that some gold transactions represent purely the exchange of one form of capital for another. This is so, for example, when bank balances owned in one country by the central bank of another are converted into gold, whether the gold is left in the foreign centre or actually shipped to the country of its owner.

The "Balance of Trade" and Gold.

The various items in the accounts are well worth careful study, though little will be said regarding them at this point. They show the extraordinary complexity of interaction between the different items in the account, and the amazing resiliency of a country's balance of payments. This fact is well illustrated by consideration of a very old theory, commonly set forth in books of economic instruction written either before the present stage of understanding was reached, or without realization that such a stage had in fact been attained. We were told in the days of primary simplicity that if a country's "balance of trade" moved adversely, gold would be exported to meet the excess claims falling due. If, that is, a country increased its imports unduly, in relation to its exports, or if it sold fewer goods to foreigners, without reducing its purchases from them, then it would have to ship gold abroad. The converse was also laid down with equal regard for simplicity in mechanics. It is doubtful whether this theory was ever so true as was stated or implied but of one thing we may be assured—that it is certainly not true to-day. Gold, indeed, seems to move about for a hundred and one reasons but these! Let us take an example from the table. In 1928 the United States had a commodity export surplus about $250 millions larger than in 1927. But were foreigners compelled to ship more gold to the country? On

UNITED STATES BALANCE OF PAYMENTS, 1927 and 1928.
(millions of dollars).

Dr. / *Cr*

COMMODITY TRADE.

Dr.	1927	1928	Cr.	1927	1928
Merchandise imports	4,184	4,091	Merchandise exports	4,865	5,12[illegible]
Purchases of coal and oil bunkers abroad	29	25	Sales of coal and oil bunkers	60	50
Imports of silver	55	68	Exports of silver	76	8[illegible]
Miscellaneous items and adjustments for smuggled goods, bad debts, etc.	240	313	Miscellaneous items and adjustments for bad debts, etc.	90	6[illegible]
	4,508	4,497		5,091	5,334

OTHER CURRENT ITEMS.

Dr.	1927	1928	Cr.	1927	1928
Freights paid to foreigners on imports	206	227	Freights received on exports	140	14[illegible]
Insurance payments abroad	70	70	Insurance receipts	80	80
Expenditures abroad of travellers from U. S.	696	782	Expenditures of foreign visitors in U. S.	163	16[illegible]
Immigrants' remittances abroad	241	217	Amounts brought in by immigrants	35	28
Payments on foreign long-term investments in U. S.	203	252	Receipts from long-term investments abroad	743	817
Payments on foreign short term investments in U. S.	78	107	Receipts from short-term investments abroad	57	65
Government payments abroad, etc.	86	110	Government receipts on account of war debts	206	210
Charitable and missionary contributions abroad	49	52	Other Government receipts	57	53
Royalty payments on foreign cinema films	4	6	*Cinema film royalty receipts*	75	70
Other items	51	53	Other items	133	1[illegible]5
	1,684	1,876		1,689	1,769

GOLD MOVEMENTS.

Dr.	1927	1928	Cr.	1927	1928
Imports	207	169	Exports	201	561
Releases from earmarked accounts	23	188	Earmarkings on foreign account	183	68
	230	357		384	629

CAPITAL MOVEMENTS.

Dr.	1927	1928	Cr.	1927	1928
New U. S. investments abroad	1,606	2,070	New foreign investments in U. S.	889	1,704
Purchases of U. S. securities held abroad	661	1,153	Sales of foreign securities, etc., held in U. S.	449	492
Redemption and sinking fund payments	70	70	Redemption and sinking fund receipts	[illegible]04	361
Decrease in foreign-owned bank balances, etc.	..	226			
	2,337	3,519		1,642	2,557
Balance due to errors and omissions	47	40			
GRAND TOTAL	8,806	10,289	GRAND TOTAL	8,806	10,289

the contrary, whereas in 1927 the United States actually sold about $150 millions of gold to other countries, in 1928 she sold even more, about $270 millions.

A later defence of the theory was grounded on the statement that commodities were not the only things to be taken into account in estimating the "balance of trade": there were "invisible" imports and exports—those mysterious transactions which the ordinary man thought were extracted from Alice in Wonderland, since what seemed to him clearly an export was often called by economists an "invisible" import. However, even when this idea was clearly grasped the facts unkindly refused to fit the theory. Let us consult the table again. On all current accounts, including invisible items but excluding gold, in 1928 the United States attained an export surplus of well over $700 millions as compared with one of less than $600 millions in 1927. Surely here was a situation in which foreign countries simply could not help sending gold! But, as we know, the movement of gold was in precisely the opposite direction. The fact is that international capital transactions and short-term borrowings are by far the most immediately potent factors in the movement of gold.

The reason for the refutation of the old and simple theory is to be found in the *transactions* on capital account, and it becomes more and more clear that gold moves not as the result of any one group of items in the balance of payments but as a consequence of a concatenation *of all sorts of different facts*, varying widely in their character and origin, and having infinite reactions and interactions. The same applies *not merely to the gold item but to all the others* except those representing the fulfilment of an unvarying collection of long-term contracts such as receipts on account of war debts. No single item or group of items can be regarded as *either wholly causal or wholly resultant*, nor are *the most important proximate influences* in determining their size to be found in the size of other items in the account. Factors of prices, exchange movements and accidents of business, politics and act of God are probably far more important in affecting the size of the different items than movements in other individual items. *The relationship between all the different kinds* of transactions constitute a field of study which is as yet almost unexplored, and the Department of Commerce is to be congratulated on its constant references to the obscurity which surrounds it and the complexity to be found within it. One of the most useful innovations in the latest bulletin is the publication of a table of *revised and comparable figures covering the* entire period 1922–28. These figures have been summarized in the statement below in which movements of gold and of paper currency have been entered in the current account in order to *bring out clearly the changes in the capital position of the country as arrived at by the residual* method. The changes as computed by direct *estimates are shown in the capital account*, the differences between the results on the residual and the direct systems being attributable to errors and omissions.

Summary of United States Balance of Payments, 1922–28.
(millions of dollars).

	1922	1923	1924	1925	1926	1927	1928
Import (—) or export (+) surplus on current account :—							
Commodity trade	+ 589	+ 206	+ 882	+ 633	+ 278	+ 583	+ 837
"Invisible" items	— 145	+ 2	— 80	— 120	— 73	+ 5	— 107
Gold and paper currency*	— 194	— 245	— 236	+ 72	— 72	+ 154	+ 272
Net increase or decrease in debts due from *abroad*	+ 250	— 37	+ 566	+ 585	+ 133	+ 742	+1,002
Changes on capital account :—							
Net long-term lending to (—) or borrowing from (+) *abroad*	— 685	+ 30	— 733	— 560	— 540	— 695	— 736
Net short-term do.	+ 375	+ 3	+ 216	— 61	— 359	..	— 226
Total	— 310	+ 33	— 517	— 621	— 181	— 695	— 962
Discrepancy, due to errors and omissions ..	+ 60	+ 4	— 49	+ 36	+ 48	— 47	— 40

* Paper currency is included in the figures for the first four years only.

It will be noticed that no very regular trend is observable in the residual figures. In 1922 the United States lent a substantial amount abroad, in 1923 there was no surplus available for this purpose; in 1924 and 1925 large net amounts were invested outside the country; *in 1926 a relatively small sum; in 1927 a much* larger amount again; and in 1928 a still bigger sum, surpassing even that achieved on Great Britain's balance of payments, which amount was itself, at £150 millions, the largest since 1923. The figures for 1928 must therefore be written down as pre-eminently acceptable to Americans in that they gave full scope for the employment of the phrase "all-time record" and its numerous and not always musical synonyms.

The unprecedented increase in 1928 in America's claims on other countries was disproportionately divided as the table shows, between long-term and short-term lendings. Three-quarters of the *surplus available from current* account operations was used to strengthen America's long-term capital position, and one-*quarter to strengthen her short-term* relationships. On long-term account the United States, already a creditor, invested large net sums abroad, while on short-term account America the debtor reduced her outstanding indebtedness to other countries by a substantial amount. Thus we find that United States long-term investments abroad at the end of 1927 were estimated at between $11,500 and $13,500 millions, while the total for a year later was set between $12,555 and $14,555 millions. These figures exclude any capitalized

amount in respect of war debts. As against these totals, it was computed that foreign long-term investments in the United States at the end of 1927 amounted to about $3,700 millions, and this figure is apparently accepted as true also of a year later. At the end of 1928, then, the United States was a creditor country in respect of long-term claims to a net total of, let us say very roughly, $10,000 millions. By contrast with this strong creditor position, America was estimated on short-term account to be in debt to the rest of the world at the end of 1927 to a net amount of $1,864 millions, while the figure for a year later was $1,638 millions. Consequently, on long and short-*term accounts together the United States* was a creditor to the extent of about $8,500 millions. The addition of the present value, on a 5 per cent basis, of the war debts to the United States Government would raise the total to about $14,000 millions. These figures, by reason of difficulties in estimating the individual items and the effect of cumulative margins of error, must be regarded as distinctly tentative, but it is encouraging to note that the Department is obtaining more detailed particulars which may materially increase the reliability of the resulting estimates.

AMERICA'S SHORT-TERM INDEBTEDNESS.

The figures which show perhaps the greatest initiative in their compilation, but at the same time yield the most questionable results, are those relating to the growth or decline of foreign-owned short-term funds in America and American short-term funds in other countries. These items are by their nature extremely elusive and the statistics are obtained as a result of annual questionnaires addressed to numerous banking and other financial institutions. The outstanding short-term debts between the United States and other countries at the end of the past two years, as compiled by the Department, are summarized in the following table:—

(millions of dollars)	December 31 1927	1928
Debts to United States:		
American deposits abroad	233	198
Short-term loans to foreigners ..	970	1,121
American funds in foreign money markets	33	28
	1,236	1,347
Debts from United States:		
Foreign deposits in United States ..	1,938	1,751
Short-term borrowings from foreigners	197	275
Foreign funds in American money market:		
In bank acceptances ..	406	570
,, Treasury certificates ..	445	174
,, brokers' loans ..	101	207
,, other forms ..	13	8
	3,100	2,985
Net United States' indebtedness	[illegible]	[illegible]

It might have been supposed, in view of popular notions regarding New York stock and money market conditions and the fluctuations in the sterling exchange, that during last year foreigners would have increased their holdings of short-term funds in the United States, and that America's net indebtedness on short-term account would have risen. If the figures in the table are accepted, however, neither of these developments has occurred. The Department of Commerce bulletin contains an explanation of this superficial anomaly, pointing out that, although American money rates rose, so also did European: that, in addition, foreigners bought vastly increased amounts of American *goods, so that the export surplus was increased* and foreign funds already in America had to be drawn upon to meet the payments involved; and that, finally, American long-term loans abroad were severely restricted in the second half of the year. These considerations show how extremely mobile are short-term funds, and how easy it is to fall into errors of fact when speaking of "inflows" and "outflows" of funds from one country to another. Applying and adapting the arguments already outlined to the position in the first half of the present year, it would seem highly doubtful whether the recent weakness of sterling in terms of dollars has been due, to any large extent, to private investment by non-Americans of short-term funds in New York. Much more probably is it to be related with the far lower level of foreign long-term security issues in the United States and the consequent failure to balance on other accounts. Thus, according to the latest statistics of the New York *Commercial and Financial Chronicle* the par value of foreign issues in New York in the first five months of 1929 was less than $400 millions, as compared with well over $700 millions in the corresponding part of 1928.

The figures of debts due to America are less striking than those in the lower half of the table. First of all, it will be seen that on both dates *foreign-owned deposits in American banks* accounted for nearly two-thirds of the total amount due to foreigners. This is an unexpectedly large proportion, but it has to be remembered that a considerable part of the funds would be standing to the credit of foreign central banks as a constituent of their cash reserves against notes and other demand liabilities.

The next largest item in the 1928 return consists of foreign holdings of American bank acceptances. The figure of $570 millions for December 31 last is surprisingly high, seeing that the total acceptances of American banks, as returned by the American Acceptance

Council, on the same date was $1,284 millions. Roughly speaking, then, foreigners appear to have been holding about one-half of the total bank acceptances available. In addition, however, it must be remembered that paper of this kind forms one of the media for the exercise of Federal Reserve open market policy. On January 2 last the twelve Federal Reserve Banks held altogether $484 millions of bills bought in the open market. It will be seen, therefore, on what a narrow margin of supply the New York bill market works, and in the light of these facts it is easy to appreciate the eagerness of the American monetary authorities to develop the bill market by encouraging the use of paper of this kind.

The figures of foreign holdings of Treasury certificates show a heavy decline over the year. Certificates of indebtedness are short-term securities bearing a fixed rate of interest, thus differing in important respects from British Treasury bills, and are freely dealt in on the New York money market at variable prices. The decline in the foreign holdings has to be attributed, not to any loss of attractiveness relatively to other investments, but to a quite distinct and fortuitous influence. Last year it was decided to grant to foreign central banks exemption from liability to tax on the income received from investments in bank acceptances, this exemption already applying to holdings of certificates of indebtedness. Thus one of the principal elements of superiority in certificates was removed.

These remarks give some indication of the degree of importance to be attached to the decision, recently taken in the United States, to supplement the certificate system by the use of securities similar to British Treasury bills. Should the powers recently granted to the United States Treasury be used to any large extent, then some of the foreign-owned funds in New York might be utilized in the purchase of these securities. This would ease the pressure on the acceptance market and provide an additional type of paper, of gilt-edged character and possessing the quality of non-depreciability, for general use in the investment of short-term funds. It is possible that the scheme may have been put forward partly with a view to stimulating the development of a large-scale bill market in New York, which the Federal Reserve system was to some extent designed to attain and has largely failed to achieve. At the same time it would not appear likely that the mere availability of a new form of security would tend to increase the amount of foreign-owned funds accumulating in the United States. The volume of such funds depends, as we have already indicated, on factors far more potent than this. Briefly, the possible availability of United States Treasury bills may very well alter the disposition of foreign-owned funds, but may be expected to have but slight, if any, effect upon their volume.

Perhaps the most striking item in the table has yet to be mentioned, namely, the amount of foreign-owned money lent in the form of brokers' loans. The figures for both years are amazingly low. The *Monthly Review* of the Federal Reserve Bank of New York, in commenting recently on the statistics of short-term funds, remarks that these figures would probably have been considerably larger if some other date had been chosen for the returns, since " a number of foreign lenders in the call market withdrew funds on December 31, probably for 'window dressing' purposes ". This, however, may not be the only explanation. It is possible that American " window dressing " may have led to the offer of greater inducements to foreigners to hold their money on deposit over the year-end rather than in brokers' loans. Even so, and allowing for such a twin movement the figures still seem to err on the low side. The weekly returns of loans to brokers compiled from figures of the reporting member banks in New York City divide the total, which is not all-inclusive, into three groups, loans " for own account ", " for account of out-of-town banks ", and " for account of others ". On January 2 this last section accounted for no less than $2,166 millions, which represented a decline of about $156 millions from the previous week's figure. If we regard this decline as giving some indication of the strength of the year-end influences mentioned, and add to it the amount lent to brokers as shown in the table, we arrive at a figure of about $360 millions, which may be taken as a very rough guide to what might be called the " normal " foreign loans to brokers about the end of last year. Even this figure, however, appears distinctly low in relation to the total foreign-owned funds in the United States, and it would almost seem as if some foreign-owned money in essence lent to brokers has for some reason been included, in replies to the questionnaire, among foreign deposits. It may, indeed, be taken as highly unlikely that foreigners should own, as a " normal " arrangement, say $1,600 millions in the form of American bank deposits against only $360 millions employed in the call market, where better rates were to be earned.

Apart from these points, arising from the individual items, the total debts from the United States, as shown in the table above, possess strong significance. The Reserve Bank *Review*, in commenting on the small difference between the two figures, suggests that if the return had covered all the institutions, without exception, in or through which foreigners held dollar funds there would have been even less change as between the end of 1927 and of 1928. In any case, however, it is probably safe to say that no increase took place during the year in the total volume of foreign-owned funds in the United States. This emphasizes the truth of the statement that the weakness of sterling has not been due primarily to a so-called "flow of funds" from Europe to America. The predominant factor has undoubtedly been the drastic curtailment of American long-term lending abroad.

Long-term and Short-term Funds.

The essence of these facts is clear. America has been keeping more of her funds in her own control, and passing on a smaller amount to foreigners by way of loans. For some time past *she had been lending long abroad and* borrowing short from abroad. The surplus had been on the side of an increase in American claims, long and short together, on other countries, but it remains true that foreigners had borrowed heavily in the New York capital market and had accumulated larger and larger quantities of short-term funds in America. It followed that when foreign issues were restricted foreign-owned funds ceased to grow. The way in which the theoretical connection works itself out is simple. The decline in foreign issues restricts the new supplies of dollars coming into foreign ownership, and thus places pressure on the exchanges of other countries in order to maintain their exchanges these other countries have to draw on their accumulated holdings of dollar funds. If, then, foreign issues in New York were to cease altogether a rapid decline might be expected in the volume of foreign-owned funds in New York. The two elements in international indebtedness are inseparable, but the governing partner is the *quantity of long-term lending through the new* capital market.

Leaving the figures of foreign funds in the United States, and turning to the other side of the picture, we see that foreign short-term debts to the United States increased over the year by a fairly substantial amount. America, therefore, has been to some extent supplementing a declining volume of long-term loans to other countries by an increasing volume of short-term accommodation. As the net result of all these movements, America has on balance reduced her external indebtedness on short-term account, while increasing, at a slower rate than before, the indebtedness of foreign countries to her on long-term account. Thus the creditor position of the United States is still being steadily strengthened. By one means or another the process goes on, irrevocably, inevitably, with the sureness almost of a law of nature. Indeed, it is almost a law of nature that if a creditor country takes all possible steps to expand her exports to foreign markets, and at the same time maintains an attitude of active dislike for foreign imports, then her investments abroad must pile up and up indefinitely. If the seller insists on selling and prefers not to buy, there is only one possible result. The buyer must go further into debt—always assuming the new debts are not balanced by the cancellation, with or without the consent of the creditor, of old debts. There is always the bankruptcy court at the end of the road, and it is an interesting speculation how far nations, as economic entities, can in practice go into debt without plugging the wells of accommodation. On the answers given to specific questions arising from this general problem hangs the formulation of a wise, far-seeing policy for American trade.

Sugarcane.

The *Madras Agricultural Digest* (No. 81) says:—As an adequate water-supply in the hot weather is the limiting factor in growing sugarcane in the Godavari, and as the margin of profit in cane cultivation has of late years dwindled, and as a large proportion of the cost of cultivation goes on irrigation, an attempt has been made at the Anakapalle Sugar-testing Station to discover a variety which will yield fairly well with one good soaking irrigation at planting time only. Co. 213, Maxwell 10, and J. 247 were tried under these conditions and two planting seasons were adopted, one towards the end of February, and one towards the close of April. In the early planted series Co. 213 and Maxwell 10 were ripe and harvested during the month and they gave 40.8 tons and 29.8 tons of stripped cane per acre respectively. In the late planted series only Co. 213 was ripe and this gave 40.8 tons of stripped cane per acre also. By this practice Rs. 90 to Rs. 100 per acre are saved on irrigation and if yields like this can be obtained and this money saved the problem of making sugarcane cultivation pay will be solved to a great extent despite the low price of jaggery.

Canadian Trade and Finance.

Wheat Prices and Canadian Business Prospects.

Montreal, 1st August, 1929.—In the early months of 1929 there were a number of factors in the Canadian business situation, such as the low price of wheat and the tightness of money, which seemed to portend at least a minor recession in business activity for the balance of the year, but, somewhat contrary to general expectations, business and industry have continued at a high level throughout the spring and early summer. With the severe credit strain somewhat relaxed, and with wheat prices at a much more satisfactory level, there is no question but that prospects for the remainder of the year have shown substantial improvement.

The outstanding event of the past two months has been the sharp recovery in wheat prices. The low price which prevailed during the first half of the year had had a disturbing influence upon business optimism. From January through April, the price of No. 1 Northern Wheat at Winnipeg varied between $1.15 and $1.30 in comparison with a price of $1.40 to $1.55 in the same months of 1928. In May last, in these columns, attention was drawn to the world wheat situation and, though it was recognized that it was then too early to predict the size of the coming crop, the conclusion was presented that the world wheat situation was relatively satisfactory. During May, the market began to over-discount the surplus held in Canada, the United States and Argentina, and the shortage of wheat at consuming centres in Europe was not given sufficient consideration. By May 30th the price of No. 1 Northern, had dropped below $1.05.

Since that time the prospects for a smaller world crop in 1929 have become pronounced. The prolonged period of exceptionally dry weather in Western Canada and the United States has wrought severe damage, the fear has disappeared that the new Farm Board in the United States might take action leading to the dumping of wheat abroad, and these factors together with the recent heavy European buying for immediate requirements have combined to raise the price of wheat between May 30th and July 17th from $1.05 to $1.75. The confidence that profitable wheat prices will be obtained for the coming crop has done much to offset the gloom caused by the decrease in the size of the crop.

The Crop Report of the Dominion Bureau of Statistics published on July 11, 1929, shows an increased wheat acreage of 186,000 acres, or about 1%, but the condition of the crop was estimated at 88 as compared with 100 for the ten-year average, and 102 for the same date last year. Since the compilation of that report, there has been substantial damage to the crop from dry weather. On the 20th of July the statistician of the Canadian Wheat Pool issued a statement to the effect that the wheat crop was only 57% of normal and estimated the condition of the crop in the three prairie provinces was estimated as follows,—Manitoba 58, Saskatchewan 60 and Alberta 50. Deterioration was reported as taking place at a rapid rate; and the acute need for rain throughout the West was noted. On July 20th there were reports of fairly general rains; this produced a reaction in wheat prices, but as yet it is not known how much improvement will result from this change in the weather. On July 1, 1929, the United States Department of Agriculture predicted a wheat crop 65 million bushels smaller than that harvested in 1928. In that country also there has been exceptionally unfavourable weather since the compilation of the report. Canadian daily electrical energy production for Canadian use during the months of March, April and May amounted to 43,841,000; 44,277,700; and 44,676,000 kilowatt-hours. This represents an average of 18% increase over the corresponding months of 1928. During the first five months of 1929, the value of building contracts awarded in Canada has been about 8% in excess of those awarded during the record breaking year of 1928. Carloadings, newsprint, and iron and steel production compare favourably with the corresponding months of last year. The Dominion Bureau of Statistics index number of employment reached 122.4 on June 1, as compared with 113.8 on the same date last year, and 107.2 on June 1, 1927. With mining continuing to show substantial improvement, with most manufacturing plants at a high level of activity, a level substantially in advance of that attained in 1928, and with improved prospects for agricultural prices, the outlook for Canadian business for the balance of the year may be considered favourable.

Retail Distribution.

The intensity of competition which, in the past, was largely confined to manufacturing, is

spreading into the field of distribution. New methods, greater efficiency, better service on lower margins of profit are becoming the order of the day and the changes in the retail field are taking place at a rate which makes the shift of scene appear kaleidoscopic and abrupt. It is the spread of the chain store which has attracted attention, but it was the introduction of scientific methods in the study of problems of distribution which made possible this new movement. Only a relatively small proportion of the total volume of merchandise is sold through chain stores, but independent stores throughout the country are adapting themselves to new standards, increasing the value of the service rendered, and making more intelligent studies of the desires of their customers.

Retailing in Canada.

The Canadian Business Research Bureau has estimated that during the year 1929 there will be 1,000 new chain store units established in Canada; that 700 were established in 1928, and that the number which were in operation on January 1, 1929, was 3,700. According to this report, there were on that date 1,670 stores included in the grocery chains, 297 selling drugs, 237 meat stores, 223 variety stores (5/ $1.00), 217 cigar stores, 149 candy stores, 109 cafes, restaurants and hotels, 108 bake shops, 106 shoe stores, and 15-20 other lines in each of which there were chains of from 10 to 90 units. This report did not include gasoline service stations, of which there are hundreds under chain management. The chain type of management has spread through many fields and there are now chain stores selling furs, radios, musical instruments, hardware, tyres, soft drinks, clothing and furniture. At the beginning of 1928 there were 77 department stores in Canada under chain management.

Independent stores in Canada, particularly groceries, have met the invasion of the chain store by the formation of associations of retail dealers. Among the more important of these is the group known as Victoria Independent Stores. This is an association of 560 independent grocers in Montreal and its vicinity. In most respects this association is run along lines almost identical with those used by the chains. They co-operate in buying and advertising, they maintain a uniform managerial policy, and a uniform store front is used by all the members. There are three other associations in the Montreal district with more than 1,300 members, four other groups in the Province of Quebec with 100 members. There are associations in Ontario with more than 1,000 members; a single association in the Prairie Provinces with 350 members, besides many other associations in the Prairie Provinces and in other parts of Canada. The formation of retail associations, then, constitute a movement comparable in importance with that of the chain store.

Chain Methods.

Whether the chain consists of a number of store units under a single management, or of an association of independent dealers, reduction in cost of operation, more orderly buying and larger profits on a narrower margin of mark-up have been attained. Both types of organization have initiated careful studies of the quantity and quality of goods desired in typical communities. With the assurance that consumers' demand was likely to be adequate, large-scale purchasing at reduced prices became feasible. Each group buys a particular type of goods through a single agent; the agent is able to bargain on the basis of large orders without the expense and danger inherent to enlargement of inventory. Goods come to the consumer while their appearance is still fresh, and particularly in the case of food products, cleanliness is stressed. Standardization in construction, methods of management, book keeping, and particularly in the order of arrangement and display, may take away from the individuality of the store, but there is a tendency for this standardized unit to be decidedly more attractive than were many of the old corner groceries. In general, the new store is too busy to constitute a good centre for the discussion of local politics.

The most impressive element in model methods is the emphasis laid upon rapidity of turnover. In the past, turnover in groceries has been as low as six to eight times a year. Grocery chains claim that they turn their stock twenty to twenty-five times a year. Rapid turnover assists in the reduction of inventories and makes for a lower percentage for overhead. It is more because of rapidity of turnover than because of the advantage which come with large-scale purchasing that the grocery chains make the claim that the saving which they have made for the consumer amounts to 14 to 18 on the dollar, or forty to fifty dollars a year for the average family. A further advantage which accompanies close study of turnover is better understanding of changes in the demands of the consumer, both in regard to quality and style. Many manufacturers state that these new methods of merchandizing give them a quicker and clearer understanding of the probable trend of demand.

To the wholesaler and the jobber, the development of the chain and the association has been a matter of grave concern. Both of these types of buying tend to eliminate the middleman. The intelligent wholesaler has recognized that it is only by maximum efficiency on the part of his organization that he can hope to maintain his position. Failures among wholesalers and jobbers have been proportionately larger than among retailers. In certain cases, wholesalers have become purchasing agents for the chains or associations, and in other cases they have established retail chains of their own.

SCIENTIFIC STUDIES OF RETAILING.

The intensity of competition in retailing has led executives into intensive study of the details of the costs of business. Wholesale and retail grocers, wholesale and retail druggists, wholesale manufacturers and retail jewellers, shoe stores, department stores and automobile manufacturers in the United States have submitted the full details of their inventories and all items of the expense of doing business to such institutions as the Bureau of Business Research at Harvard University, or the Automobile Chamber of Commerce, so that comparative studies of cost might be available. In practically every line of merchandizing there are cost studies available showing the average ratios of such items as total merchandize costs, salaries, rentals, insurance, taxes, depreciation, losses on bad debts, etc., to total sales. General rate of turnover, gross and net margins of profit, and in some cases rate of turnover on particular items are among the subjects concerning which a mass of data is being accumulated. Statistical studies of the comparative costs in large department stores and chain department stores show that as yet the individually operated store which is run on efficient lines had a slight advantage over chain department stores in 1928 so far as net profits are concerned. The following table from "Operating Expenses of Department Stores and Departmentized Speciality Stores", a publication of the Bureau of Research of Harvard University, gives a somewhat detailed comparison of the relative costs in the two lines. It is of interest to note that the net profit on turnover is less than 2% in each case. When net profit is as low as that shown in this table, only the most efficient organizations can survive. (*Vide* next column for Table.)

THE FUTURE OF THE CHAIN STORE MOVEMENT.

There are widely varying opinions as to the ultimate outcome of the chain store movement. Some authorities have stated that the essential costs of assembly, warehousing, and the distribution of goods into retail channels are so great that the savings of chain store methods are within the reach of every intelligent independent dealer. In the opinion of those who take this view, the popularity of the chain method of distribution will cease when the independent dealer has raised his standards to conform to the pace set by such competition.

	Independently Operated *Stores.	Members of †Chains.
Number of Firms	136	..
Total Merchandise Costs ..	67.0%	66.1%
Gross Margin	33.0	33.9
Functional Division of Salaries and Wages:		
Executive	1.25%	0.7%
Managers and Assistants .	0.6	0.45
Total Salaries and Wages ..	16.5%	16.6%
Expenses by Functional Groups:		
Total Administrative and General	7.2%	6.8%
Total Occupancy	6.2	7.1
Total Publicity	4.3	4.9
Total Buying	3.7	4.5
Total General Selling ..	8.0	8.2
Total Delivery	1.1	1.5
Total Expense ..	31.4%	33.0%
Net Profit	1.6%	0.9%
Total Net Gain:		
Percentage of Net Sales ..	4.6%	4.0%
Percentage of Net Worth ..	9.9%	9.4%
Rate of Stock-turn (times a year):		
Based on beginning and ending inventories	3.9	3.9
Based on monthly inventories	3.3	3.5
Returns and Allowances ..	8.0%	11.0%
Mark-downs	6.6%	6.2%

On the other hand, there are those who believe that the chain store will come to completely dominate the retail field. Carrying this train of thought still further, Edward A. Filene, President, William Filene's Sons Company, Boston, has predicted that chain stores will so organize that "They will combine the advantage of the department stores with the manifest advantages which the chains already have. In one way or another, great chains of department stores are certain to develop. One way is for the existing department stores to form themselves into chains; each department of each store will then become a unit of a chain of similar departments. There will be chains within chains. If the department store fails

*The value of the net sales of each of these 136 stores was in excess of one million dollars during 1928.

†*Reports containing analyses of the comparative* costs in various lines of retailing are available for consultation at the Library of the Head Office of The Royal Bank of Canada. These reports analyze the cost of each activity in retailing in much greater detail than is indicated by the table.

to do this, then the existing chains in different lines will get together. They will occupy buildings of the department store type and organize to function successfully in competition with the most successful department stores."

"*These many advantages that I have touched* on make it certain in my opinion that in the near future we shall see chains of department stores which even in these days of Gargantuan businesses can be called "gigantic". It is not a *wild guess to forecast that in the near future* there will be organized a chain of 50 or may be 100 department stores in as many cities. It would not be difficult to pick out 50 such stores which are now doing an average business of *$20,000,000 a year each. I have said that* Macy's does a business of $83,000,000 a year. Filene's, which is not a department store, but a speciality shop, with only about 10 per cent as many different classes of goods as Macy's and *located in Boston, with only 700,000 population,* has sales of more than $29,000,000 a year. Such a chain would have total sales of one billion dollars or more a year. That volume of sales would be comparable to that of the General Motors Corporation with sales of $1,058,153,358, or perhaps even to that of the United States Steel Corporation whose sales in 1926 were $1,508,076,090. A single one of the chains of departments in such a group might *sell $50,000,000 worth of goods a year or more.* Some of the chains of departments will take the entire production of the most scientifically organized factories. Others will take enough of a factory's production to stabilize its business *and make the tremendous economies of real* mass production possible. The manufacturing costs of the goods will be reduced considerably. The distribution costs will be cut 25 per cent or perhaps 50 per cent. The lion's share of *these savings will go to the consumer in lowered* prices, yet the total profit on sales will be higher than any deportment store or chain of stores now enjoys.

"Chains of department stores such as I have *outlined will develop in the near future.* The obvious and logical way for them to develop is for existing independent department stores to get together. If they hesitate too long, the chain will develop in another way. The existing *national chains will get together, add such other* chains of departments as they need, occupy department store buildings, and make serious, if not fatal, competition for the existing department stores."

SUMMARY.

In contrast with the two views set forth above, (*a*) that chain stores are a temporary device in the channels of distribution, and (*b*) that chain stores are likely to completely dominate the retail trade, there is a strong probability that both the chain store and the independent store will continue to exist side by side. The chain store has already discovered the difficulty of obtaining a sufficient number of satisfactory salesmen. In order to attain the advantage which come with an exhibition of real initiative on the part of local managers, at least one chain is paying their managers a salary plus one-third of the profits of the unit. Without such special incentives for the chain manager, the independent owner will keep in closer personal relationship with his customers and the personality factor is a particularly important element in retailing. Scientific studies which are readily available will permit the independent owner to secure a rate of turnover which will compare favourably with that of the chain. Co-operative purchasing secures a price from the manufacturer comparable with that secured by the chain. The popular, intelligent, and energetic independent competitor will be able to take a large volume of business from all but the best managed chains. On the whole, there is no question but that the consumer will benefit by the rivalry between the chains and the independents and by the inter-chain competition. In the past, the inefficiency of distribution has been notorious; the high cost of this inefficiency in terms of failures directly affected the profits of manufacturers, and in terms of high prices affected the pocket book of the consumer. Although the process of readjustment is difficult, yet the organization of business which survives this trial will be much stronger and more satisfactory than that which previously existed.

CANADIAN EXPORTS TO THE UNITED STATES.

One of the largest retailing establishments in the United States recently approached the Foreign Trade Department of the Royal Bank of Canada *with a view to increasing the variety* of their purchases in Canada. The firm making this enquiry is in a position to make a wide variety of purchases on a large scale and is willing to make a thorough investigation of th *possibility of increasing this type of business.* The names of Canadian manufacturers or exporters who supply this Department with catalogues and price lists will be mentioned in this connection. It is the function of the Foreign Trade Department to secure tariff information and to assist manufacturers and exporters in making this type of contacts.

Economic Notes.

In the Canadian letter we publish to-day the main topic dealt with is the chain store situation in Canada. It shows that the growth of the co-operative movement, among the owners of independent stores, is a movement of much the same relative importance as is represented by the chain store movement itself. Edward A. Filene of Messrs. Filene & Company is quoted as having the opinion that the growth of chain and department stores will assume spectacular proportions in the near future. It is worth study by co-operators all over this country.

Indian Rice.

We have received copies of two striking advertisements for Indian Rice which have just been inserted by the Empire Marketing Board in all the principal papers in the United Kingdom. One of these is said to have appeared in the trade papers concerned and the other in the general press, reaching in all nearly twenty-five million (25,000,000) readers. From a copy of the leaflet which is being distributed in connection with this advertisement and which will be offered at all exhibitions in which this Board participates, we note that the Board is spreading useful information on Indian rice in the shape of a number of simple and inexpensive recipes in which Indian Rice forms the chief ingredient.

Manganese Ore Exports from Bengal.

The Report on the Maritime Trade of Bengal for the official year 1928-29 states that the exports to the United Kingdom fell from 157,613 to 115,700 tons. A smaller quantity was shipped to the United States and nothing was shipped to Japan. Belgium, on the other hand, took 113,010 tons as against 97,094 tons in 1927-28 and France 82,600 as against 68,470 tons. There were no exports of Ferro-Manganese in 1927-28 but 1,506 tons were exported in 1928-29 mostly to New Zealand.

Mr. Snowden Criticized.

The Indian Merchants' Chamber quarterly meeting, Mr. L. R. Tairsee presiding, sharply criticized the remark recently made by the Chancellor of the Exchequer that an increase of six shillings' purchasing power per head in India would directly benefit Britain to the extent of £87,000,000. Mr. Tairsee quoted with approval the reply given by Mr. J. A. Wadia in the course of which he caustically, perhaps, commented that the Chancellor was aware that the Indian Government had already increased India's purchasing power by raising exchange from 16*d*. to 18*d*. Mr. Wadia gave figures to show that imports of merchandise rose from Rs. 156 crores in 1926-27 to Rs. 181 crores in 1927-28 while exports increased from Rs. 228 to Rs. 248 crores. Mr. Tairsee proceeded to say that no country in the world considers prosperity in terms of increasing imports at the expense of exports. Mr. Tairsee welcomed the desire of the new Chancellor to increase the purchasing power of the Indian ryot. A rich, satisfied customer was the best asset of the seller. From this point of view the long sighted interest of England should be to see that her customer was rich and prosperous. The Chamber elected Mr. S. N. Haji to the vacancy in the Banking Inquiry Committee caused by Mr. Madan's death. Mr. Haji secured 18 votes against Mr. Nalini Ranjan Sarkar's six.

Admixture of Goat Hair with Wool.

Complaints have been brought to notice through the Indian Trade Commissioner in London that some unscrupulous exporters in India with a view to evading the disinfection charges payable on goat hair imported into the United Kingdom mix a large percentage of goat hair with "Native Grey Wool" by skilful washing and softening. As malpractices of this kind may result in the compulsory disinfection of all wool consignments from India and will have a prejudicial effect on the export trade of this particular variety of wool, exporters interested in the line are warned to take sufficient precautions before shipments are effected.

Tanning Imports into Madras.

According to the Administration Report of the Madras Port Trust for the year 1928-29, the imports of tanning substances increased by 57.6 per cent, the figure for the current year being 15,832 tons. Ninety per cent of this quantity amounting to 14,307 tons consisted of wattle bark imported from Natal for tanning hides against 9,051 tons imported in the previous year. The marked increase noticed in the imports is due to its larger use for tanning hides on account of avaram bark being unobtainable in large quantities.

Levy of Fees from In-patients.

The Government of Bombay have slightly modified the rules regarding the levy of fees from in-patients at the Government and State-aided dispensaries and hospitals. Hitherto the rules have provided that the day of admission

and the day of discharge should be treated as complete days for computing the amount due. It has now been decided that the day of admission and the day of discharge shall be taken together and counted as equivalent to one day for the purpose of levying fees.

Timber Imports into Madras.

The Administration Report of the Madras Port Trust for the year 1928-29 states that there was a slight fall in the import of teak during the year, the figure for the current year being 23,326 tons against 23,680 tons of the previous year. Of this quantity, 20,976 tons came from Burma against 22,210 tons in the previous year and 1,971 tons (Gurgan and Padouk logs) from *Port Blair* against 1,440 tons in the previous year. There were no imports of Australian timber. Imports of other timber including firewood and shooks have also fallen by 5.7 per cent, the figure for the current year being 7,630 tons. Tea shooks have on the other hand increased by 84.7 per cent, the figure for the current year being 2,986 tons.

Beryllium, its Use & Occurrence in India.

Increasing attention is being paid in the United Kingdom to the manufacture of beryllium, small percentages of which confer valuable properties on alloys. Beryl contains about 8 per cent of beryllium and the pale-coloured varieties of the former are of common occurrence in the granite pegmatites of India, though the crystals are too much fissured for use as gem stones. Occasionally in the pegmatite veins which are worked for mica in Bihar and in Nellore, large crystals of beryl, many inches across, are found to include clear fragments which might be cut as aquamarines; but the only places in India where attempts have been made to excavate pegmatite solely for its aquamarines are at Padyur (Pattalai) near Kangayam, Coimbatore district, where they accompany the mineral clevelandite, at different places in the Toda hills in Rajputana, and in the Skardu Tehsil of Kashmir. Stones of considerable value were obtained from the mine which was worked at Padyur in the early part of the nineteenth century: a pit some 30 to 40 feet in depth is still in existence. At Sagar near Sarwar in the Kishangarh State, Rajputana, aquamarines occur in mica-bearing pegmatites. The occurrences in Kashmir have proved to be of considerable importance. The principal source of the stones is the immediate neighbourhood of Daso village, but evidence has been obtained to shew that beryls and aquamarines occur further away up the Braldu and Basha valleys and also in the Rondu neighbourhood. The gems are found in veins of coarse pegmatite traversing foliated biotite-gneiss. They do not, as a rule, shew great depth of colour but the tint is delicate and limped. The deposits have as yet been only superficially opened up, and a long life for these mines is anticipated. With a market price of £17,000 per ton of beryllium it is likely that a stimulus will be given to the extraction of beryl from the mica fields. It is *stated that a British firm has recently patented* an electrolytic process for the isolation of compact beryllium.

Lac Cultivation in the Plains of India.

Bulletin No. 185 of 1928 of the Agricultural Research Institute, Pusa, entitled "The Cultivation of Lac in the Plains of India (*Laccifer lacca*, Kerr.)" by Rai Bahadur C. S. Misra, B.A., First Assistant to the Imperial Entomologist, Agricultural Research Institute, Pusa, is the revised (fourth) edition of the bulletin first published in 1912 and replaces Bulletin Nos. 28 and 142. It contains all the latest information regarding the lac insect as well as the practical methods for cultivating it. As far as possible, all the explanations and descriptions have been given in plain language so as to enable the beginner to follow the life-history of the lac-producing insect and the methods of propagating it. Several interesting illustrations and charts have been included in the Bulletin, together with a map of India showing Lac Markets and Shellac Factories. Copies of this publication are obtainable from the Manager, Government of India, Central Publication Branch, 3, Government Place, West, Calcutta, and also from the Agents for the sale of India Government publications, at Rs. 4 per copy.

Our Articles on Agriculture in U.S.A.

Our series of articles on *Agriculture in the United States* by Mr. Cak has, we see, attracted considerable attention. They have been favourably noticed by critics, the latest to extract the series *in extenso* being the *Calcutta Commercial Gazette*, a weekly paper of great promise which issues from the commercial capital of India.

Economists, Official and Non-Official.

A correspondent has forwarded to us a copy of a recent issue of our Punjab contemporary "The People" in which there appears an article headed "What is wrong with the Indian Economic Association" and asks us to state what our opinion on it is. We are not sorry that the question has been put to us. Mr. P. A. Wadia, the writer of the article in question, is a well-known economist in India and is, we believe, a Professor in the Wilson College, Bombay.

He ought to know what he is writing about, more especially as he appears to know more of the Association he is writing about than we ourselves happen to know, situated as we are far away from its head-quarters and scene of activities. But probably our correspondent's suggestion is that we are, so to speak, in the line and that therefore we ought to know things and speak out our mind on the principal points urged by Mr. Wadia. Mr. Wadia's chief complaint is that the Association is composed more largely of official Professors of Economics than of non-official Professors and that there is something unreal in the atmosphere in which it works. There is point in this criticism and we, for one, would be the last to say that all is well in a condition of affairs in which there can be no free discussion of economic topics in the interests of national well-being. Officials, however, need not be taken in conferences of the Association. While every facility should be allowed to all actively engaged in the teaching of economics to join the Association and its annual sessions and take part in its debates, the share-holders should be preferably non-officials. It is necessary to bear in mind that officials have responsibilities of a kind which might come into conflict with the expression of their personal opinions, whatever they might be. It is for this reason we suggest that the Association executive should be mainly non-officials, though officials as such should not be barred admission.

Topics in the Journals.

Company Law Reform.

The present law in India relating to joint-stock companies was codified by the Act of 1913 and since then there has been no important amendment affecting the fundamental principles laid down in the Act. Joint-stock enterprise in this country is of recent development and it may be said, says *Cotton and Finance*, that it is too early to think of drastic changes in the Company Law. But since 1913 there has been the war followed by boom, depression and stagnation in trade and industry, and therefore, it is possible to gather experience in each of these periods much better than at any other time.

The most outstanding feature in the post-war joint-stock enterprise in this country has been the rise and fall of many a bogus mushroom companies. Whether this feature can be attributed to the abuse of the privileges conferred by limiting the liability of such enterprises or not expert investigation alone can decide. But this much is certain that there has been a certain charm associated with limited liability companies, and the popular impression has associated too much honesty of purpose with such concerns to the prejudice of private partnership companies. The general public was led to believe that since the joint-stock companies are *required to publish statements periodically* there could be no fraud. If at all the recent experience has taught us anything it has impressed us beyond all doubt that roguery can exist in spite of all legislative enactments. It is perfectly true that no Act of the Legislature can in the long run protect a fool against a rogue and it is equally true that the rogue can slip through the meshes of a net which will hopelessly trip up and entangle the honest businessmen. All that the Indian Companies Act in this country has done is to create joint-stock institutions with perpetual succession.

The Indian Companies Act provides for certain periodical returns and statements, and these are intended to disclose certain information to shareholders. In fact, the Act recognizes the principle that confidence is established more by publicity rather than by secrecy but *at the same time this very object* is defeated by the provision of a definite form of balance sheet and other statements. It is a business truth that publicity begets confidence and that it is on confidence more than anything else that trade and production thrive. Confidence is needed to persuade the investor, the worker and the consumer to give of his best *and on each occasion where secrecy is made the* cloak for mismanagement and fraud confidence is destroyed over an area far wider than is generally realized. In the matter of publicity of accounts in particular, the bias should be in favour of insisting upon fuller information except where publicity can clearly be shown to be detrimental and not as it threatens to be in favour of maintaining secrecy.

The form of company balance sheet and the information that it should disclose are becoming all the more important every day. In the United States of America no large restraints are placed on the form and substance of the balance sheet; large freedom is given to the directors to disclose or not to disclose according to necessity and the understanding between them and the shareholders. A common complaint in this country is that the balance sheets instead of giving information to shareholders suppress the facts and investors are *misled*. The technique of company final accounts is understood only by a few and the directors should have full liberty to disclose without any conventional rigidity any information in whatever form they like. Of late a good deal of dirty things are being said about the managing agency system which is peculiar to this country alone. It is essential, therefore, that the *interests of the managing agents and also those of the* directors should be liberally disclosed in the balance sheets to create confidence among shareholders and other creditors. The Lloyds Bank has made a new departure and is giving additional information in the Bank's balance sheet beyond the requirements of the Cunclif Report.

Some time ago a responsible body, like the Chartered Institute of Secretaries, made a common-sense proposal that the clause in the Act which requires that all companies' shares must be distinguished by a number should be rescinded. It means a large saving of labour

and expense. However the Committee of the London Stock Exchange has opposed this proposal. It cannot be denied that a good deal of trouble is involved in the present manner of share transfer. It is, therefore, appropriate to consider whether bearer transfer system could not function in the manner and to the extent of protecting against bogus transfers. In other words, the present expensive and troublesome method of share transfer calls for reform.

In future company amalgamation in this country would become a very common phenomenon as in the other countries at present. A common but none the less legitimate complaint is that the dissenting shareholders are not given sufficient compensation and that the tyranny of the bigger shareholders reigns supreme. The Memorandum and Articles of Association of a limited liability company are so carefully prepared as to include all conceivable actions and business that the smaller shareholders have no effective voice even in the larger issues like amalgamation and alteration of share capital.

That there exist now a good deal of complaints and discontent regarding the working of the Indian Companies Act cannot be denied; that reforms in the light of recent experience are necessary will be readily admitted. The nature of the task is such that an expert committee not a lay one, can undertake this duty and function properly.

This year the Company Law Amendment Act, which is the outcome of Cunliff Committee Report of 1926, was placed on the Statute Book. The company law in India is mainly based on the English model and we feel sure that the reform in England can be very well thought over for application in this country.

As usual, when a particular reform is proposed there are immediately brought up arguments, some of them undoubtedly of a responsible and weighty nature, claiming to prove that its adoption would open the way to all sorts of abuses with the result that it becomes a matter of real difficulty to decide upon the merits of the case. Complaints are many in this country but they are dormant. A just and equitable committee of experts should be called upon to take up the task in earnest and the joint-stock enterprise, instead of being stifled in its infancy, should be fostered to its legitimate and full stature.

The Art of Living.

"There is no known and recognized science of living though there are many sciences which are occupied in studying life from one aspect or another. Yet living is a far more important thing to each and everyone of us than anything else can be." writes Dr. F. Aveling in his book *Directing Mental Energy* (University of London Press, Ltd., 8s. 6d. net).

We leave the sciences which have a bearing, more or less direct, upon life for the most part to others whom we pay to help and advise us when we break down, in one way or another and need their expert guidance. Thus, when we are sick, we send for the physician, trusting that his knowledge of human ailments will serve to put us right. When we are involved in serious disputes we invoke the man of law in the belief that he may be able to extricate us. In our doubts as to the rightness or wrongness of actions we may consult the moralist.

Still, though there may be no science of living, there is an art of life, more or less—but generally less—perfect as to technique, which all of us have to learn for ourselves. We are forced to learn it, since we must live. And in the main, perhaps, we earn this art with some degree of success, by way of imitation of others; by following examples or tradition, or teaching; by methods of trial and error; and by shots of the 'hit or miss' type.

While we are learning this art of living—a process which goes on as long as we live—most of us are unaware that we are pupils in a school; for there are few of us who have ever definitely set before themselves at all any purpose in life, or ever reflect upon what they have aready learned in its regard.

The canvas which each one of us covers with bright colours or with monotonous greys—the web which each one of us weaves out of the threads of desire and achievement or loss—bears all the marks of our lack of skill and of our failure, as well as those of our success. There is seldom, if, indeed, ever, time to go back in order to put right what in the light of subsequent experience has been found to be wrong. The art of living is the longest of all arts, and in it, more than anywhere else, we find the time at our disposal short. Anything, no matter how little, that will help us to learn it will be useful; for even this art, crude and imperfect as it is often in practice, presupposes like any other art a science of some kind.

The painter knows the effect of contrast in laying his colours on the canvas; and the sculptor of the human form has some acquaintance with anatomy. Even a little child's attempts at drawing show a striving to express something he already dimly knows. The knowledge, indeed, may be inadequate; the conception may be faulty and skilfulness of execution lacking. But knowledge of some sort must be there as well as some degree of skill; or there would be no work of art—good, bad or indifferent—to contemplate.

So it is with regard to the art of life. Painted in the most fluid of all mediums, moulded at the outset in the most plastic of materials, the artist of life has some plan, however vague, to which he works—even if it be a plan which changes from one moment to another. It is only later on when habit dries up the paints and the brush becomes clogged and stiff—only when the clay so hardens as to be no longer workable—that the plan, too, becomes seemingly fixed and inevitable. There is a plan; and there is knowledge, too fragmentary and scattered perhaps, to be dignified by the name of science but none the less directive of such means as we employ in the working out of the plan.

The problem of this book, then, is really one of economy. How, in living, can we best economise our powers? How can we achieve the most with the least effort? How live our lives as fully as we can without exhausting, or unduly draining, our vital energy, physical and mental?

The problem is clearly in reality a problem of wastage; for economy, in the respect at any rate, consists in the elimination of waste. It is all very well to save and hoard; but that is seldom, if ever, true economy. We must spend something if we live at all. And if we are to spend, it is generally a fact here, as elsewhere, that the best things, which may cost more than inferior products, are cheapest in the long run. This is particularly true of life in which we cannot really hoard at all; though we certainly may be able to eliminate unprofitable expenditure.

The Decline of Java Coffee.

Java coffee gained its reputation for fine quality in former days when practically all the coffee plantations in Java and Sumatra were owned or indirectly controlled by the Government of the Netherlands Indies, says the *Journal of the Society of Arts.*

Under the "*cultuur*" system, or forced cultivation, coffee was bought by the Government and held in storage for several years during which it underwent a mellowing or ageing process. Officials took much pride in the quality of coffee that was shipped to European markets, and native overseers were given special compensation for the production of coffee of good quality. The cultivation and marketing of coffee was a government monopoly from the early part of the nineteenth century, with the exception of the period during which the island was controlled by Great Britain until 1905, although it was not until in 1918-19 that all cultivation by the government was discontinued.

According to the official United States "Commerce Reports," the so-called "Java" coffee—in reality *Coffea arabica*—was successfully introduced into Java about 1699. This type flourished under the system referred to above but unfortunately it has few qualities of resistance, and when the leaf disease known as *Hemileia vastatrix* appeared in western Java and spread slowly over the island, many plantations of fine Java coffee were destroyed. To-day there are only a few plantations producing the real Java coffee, and these to do so must be located at an altitude between 3,000 to 4,000 feet in order to escape the ravages of diseases. This type, together with *Liberica*, has been almost entirely abandoned in favour of *Robusta*, a type introduced about 1900 and found to be more resistant to the leaf disease, although it has in turn fallen a prey to "koffiebessenboeboek" a coffee borer which appeared in western Java about 12 years ago.

There are but few firms dealing in what was formerly known as "genuine" Java coffee, since the amount produced is insignificant. It is a rare privilege to be served with this coffee even in Java. There are certain resorts, however, where the berries are gathered by the natives and sold to resthouses, hotels and sanatoriums. *Coffea arabica*, or Java grade, is still grown in considerable quantities in the outer possessions of Sumatra, Celebes, Bali and Timor. It is the same kind as Java, except for the fact that it is not grown on the island of Java. The soil and climate are the same as on the island of Java, and while the present Java and Java grades may not be considered equal to the "Old Government Java" (owing, perhaps, to the fact that the mellowing process does not extend over a year or so but takes place during the ocean voyage to points of destination) at least such Sumatra coffees as Mandheling, Ankola, Padang Interior and Kroe have the reputation of being among the finest and highest priced coffees at present produced in any region. They are grown on what were formerly government estates.

The total commercial production of coffee of Java and Java grades on the island of Java and in the outer possessions has dropped to 15,352,224 pounds, compared with 34,264,928 pounds for the island of Java alone around 1900 and with 174,945,240 pounds in 1879.

The Spinning Wheel.

The truth of the saying "Look at this picture and at that" is brought home when we read the diverse views given out by men of intelligence on the spinning wheel and its utility in India. Under the alluring heading of "The Creative Delight" Mahatma Gandhi quotes in a recent issue of the *Young India* an article from *St. Berchmans' College Magazine*, which, he states, he has not "had the courage to mutilate". It is from the pen of Capt. Poduval and is well worth reading. Captain Poduval writes :—

Ten years ago, when I was travelling to North Wales, I was struck with the universal employment of the spinning wheel in every cottage that I visited. And I asked the cottagers why they should spend their time in this slow process of making yarn, when they could procure miles of machine-made cloth at a comparatively cheap rate. One of the women told me that the spinning wheel in Wales and in several parts of rural England was an heirloom industry, almost sanctified by usage; that the fabric of 'home spun' lasted much longer than the machine-made stuff, and also was a partial solution of the economic problem. She went to a cupboard and took out several pieces of cloth which were entirely home-made, and some of them were remarkable for their texture and pretty designs in embroidery and needlework with which they were freely garnished. She also told me that there was something of simplicity, homeliness and domesticity in the wooden spinning wheel before her and added that if the whole world were converted into a cloth factory, I would still hear the peaceful hum of the domestic spinning wheel in the villages because it has become almost identified as one of the family. "It gives us, women, a good deal of peace and contentment from the worries of domestic life to hear the music of the whirling wheel. It is the best companion in our hours of loneliness."

From the way which she tuned up this panegyric on the spinning wheel, and the extreme complacency with which she witnessed the cotton drawing out into the thin fibre one would have thought that she was almost witnessing the interesting performances of one of her own little children. There seems to be human feeling running through the threads. This Welsh charkha has been rooted to that spot for years. The footstool had worn out. But the paraphernalia for spinning had their definite stations on the wheel all ready for work at any time, to be left off or resumed several times in the day.

I have, as a matter of habit, certainly influenced by a strong predilection, acquired a knack of sketching and painting, in these consecrated moments, when life seems to be much more valuable than its money value; and these amateur attempts have found a respectable place in the walls of every house where I have practically discarded the six penny prints that have absolutely ruined our love of art and our creative instincts. There are hundreds of pictures, world-famous ones, which I can get for little expense and less trouble. Some of these 'bits' were painted after long trudges across the country; I have often been caught in a heavy snowstorm or a soaking rain in these expeditions—or have sometimes pitched my kit in a field, to be wildly scattered

all around by an enraged bull with the danger signal on its forehead, whose proximity I had not suspected. And after all this sweating or wetting, I come back to find in the print shop round the corner, a picture of the same scene, even so much better painted than mine own, to be had for the low sum of fourpence. But I seem rather much more attached to my indifferent sketch than to the reproduction of the scene by a celebrated artist. And I have asked myself why. Now the answer to that question bears an important relation to the normal psychology of a man if that has not been entirely screwed out of its central connections into a lazy languorous eccentric orbit.

It is the pristine delight that man always felt in works of his own creation. It is not a development, not a new acquisition. It is natural to all human beings. The tree which you have planted, the fruits that you pluck from your own garden, the house that you have built, even the children that have been born to you—all these are more pleasing and more attractive, more in tune with the inexplicable feelings of your soul than the trees and the fruits and the houses and the children of others however much they may transcend yours in beauty or deliciousness. Your hand, your mind and your heart have gone into their making. There is a magical tie that binds you to these products of your own make.

This is my philosophy of the spinning wheel. Just a year before I started for Europe, this idea of 'Creative Delight' struck me rather forcibly and I thought that in the 'charkha', there was another unexplored field for me to enjoy fruits of my own labour. At that time I looked back on myself—and took an inventory of the stuff on me and about me. How sad! There was hardly a thing there which could not be expressed in terms of rupees, annas and pies. The subtle thread of 'feeling' was absent. And then I thought that it would give me a new pleasure to clothe myself in fabrics of my own making and to feel the touch of my own handiwork on the sensitive skin.

That was how I started spinning. It was years after the great Mahatma had preached the gospel of the 'charkha'—the emblem of a rejuvenating vital force that is slowly creeping through the day cracked clay of the Indian Constitution. *At first mere threads* snapped and less evolved. The small spindle of real *yarn, placed side by side with the fluff of wasted cotton,* looked like a molecule in a microcosm. But every centimeter in that tiny spindle would speak if it had a tongue. Something had gone out of me in its creation. In the delight of the first experimental production I took it to my children as the pride of an artist in the creation of a new work of art. They were already spinning yarn by the yards, but the yards, but of course, Papa's yarn deserves some compliment. "O! what a tiny little thing big Daddy has made," they said; and they took it into the broad open light to see that it was there; that the cotton had really wound itself round that little iron wire. Its thread was too loose, often irregular in thickness; it had all the technical deformities you can possibly think of. But in spite of all these deficiences, it was like a first love. I have it kept still as a form memento of my earliest attempt at the spinning wheel.

It took me less than two days to learn the art. The *cotton would just roll itself into a thread automatically* through the sensitive finger tips and wind on the spindle. The interrupted creak of the wheel has now become a continuous melodious hum, which has to be heard, to realize the poetry of it. I used to snatch every ten or fifteen minutes' interval in the prosaic tedious life of the profession to earn old applied twenty or thirty yards to my total number and I used to watch with delight the meagre spindle visibly developing in the middle, like the abdomen of a diabetic.

A certain official, who used to visit me occasionally and always brought with him a full panoply of the 'latest from the mills of Manchester and preston bekleided' in suit of formal cut asked me, as I was engaged at this agreeable task: What I was doing.

"Spinning," I said quietly.

"You spinning?" he asked in astonishment.

"I think I am," I said; "seeing is believing".

"And what do you propose to do with the yarn? Sell it?"

"That is after I have made sufficient to clothe me *and my family which, I suppose, probably never will be*" I answered.

"*But surely*", he said, "you are not going to clothe yourselves and your family in this coarse stuff?"

"*Why not; is it criminal to do so; or do you think* our skins are too delicate for such fabric? Look on the walls," I said "something of mine, my own individuality, has gone into the making of every touch in those water-colour sketches: I daresay I could procure with half the trouble and expense Summer and Christmas numbers of your leading journals and fill up my walls with prints of country squires, hunting and shooting partridges on the moors; of the greasy yellow London fog; of burghers drinking in a cabaret; and reproductions of famous pictures turned into soap advertisements. But what have we in common? I say you just try to make a pen rack for yourself, however clumsy, put it on your table and see how you feel. That will give you some idea of the delights of creative production. It has to be done before it can be felt. It is the same idea in spinning, just an application of the normal man's real, original, creative instinct to make a thing for yourself and feel the gladness of the production."

"But surely—"

"There is no but in the case," I put in rather hotly, "it is the best tonic for what some of you people generally suffer from—mental ennui—the result of having little to do and plenty of time to do it in, as the Americans say, what I tell you if you could make your own pack of cards to play with you might find a little poetry even in that most unpoetical of all pastimes."

I have thought what a wonderful and artistic future lay in that wooden system before me. There is enough of scope to exercise men's ingenuity in devising new patterns of the wheel and new patterns on the fabric made by the wheel. The domestic spinning wheel is as old as civilization. And even to-day the very best, the finest fabrics are home-spun because you can put your brain and your feeling into the stuff in some of the famous museums of Europe. You still see the gossamer muslins of an older type placed in glass cases against a black background to them to be seen. No machine makes that. They are dreams in cotton industry unhappily dead.

Now this creative delight is an essential elemental constitution of every individual and is just one of the most distinguishing features that absolutely separate him from the animal. I have particularly emphasized on the charkha because it has far more far-reaching interest; it acts in the double capacity of revival of one of our most useful and honoured institutions and as a means of economical conservation. I perceive that in the thickest whirl of this civilization, there are several people in Europe who still feel the refined emotional impulse to isolate art from mechanics and to feel closer between the person and immediate product without going through a mechanical proxy. I

know a large number of respectable ladies here who still use home-spun. A few days ago, while having tea with an upper middle class family, I dropped my handkerchief on the floor, and while picking it up, my kind hostess noticed the peculiar strange black border with which it was ornamented.

"Is that an Indian pattern ?" she asked me. "Yes," I answered, "and more than that, the whole thing is home-made."

She had a closer look at the fabric and said "It is rather coarse, don't you think so ?"

"Yes, Madam, but so is your German fountain pen. It does not look half so graceful as that made by some *of the famous manufacturers of America : nor are they* any cheaper. But they work well, wonderfully well, indeed and I see you are partial to them."

"Ah, yes," she answered, "This is of Dutchland, you know." But speaking of home products she added, "I make all my clothes : cut, stitch them too ; you see, they sit on me with a sentiment, a greater sympathy than I *can extract from the tailor.*"

Of course, there are any number of people at home where minds are not tuned up to this feeling who want to show what money can buy without their share in the material. People who sell the milk of their own cows and buy cheaper milk for their own use, have a special eccentric genius for doing so ; for it is not want, it is a special mentality whose real psychological nature has yet to be worked out.

There are a hundred and one things that our youngsters might turn to, to exercise this creative impulse but I believe, myself, that the spinning wheel is the *symbol of this instinct in man.* Mankind is immediately concerned with food first and clothing next. If everybody could produce in his own garden much of the wheat he requires for his food, I should think most people would have a better appetite for eating. And if each individual would make his own material for clothing, it would not only solve the second imminent *problem of our lives, but would also create a real taste* for dressing. In the same way, you could turn your ingenuity with real profit and pleasure by exercising your creative instincts in the production of those other sundries of life which, while greatly stimulating your powers of originality, will also tend to establish the sympathetic bond that knits you to your own native land.

From Our Readers.

Wilson Anti-Famine Institute.

OPENING CEREMONY AT BIJAPUR.

SIR,—*Bijapur witnessed enthusiastic scenes on 7th* June 1929 when Mr. E.G.L. MacGregor, I.C.S., Commissioner, S.D., performed the Opening Ceremony of the Wilson Anti-Famine Institute and its Hall known as Wilson Anti-Famine Hall, which owe the origin and development to the energetic and brilliant Collector of Bijapur, Mr. V. H. Naik, M.A., Bar-at-Law. The *precincts of the Wilson Anti-Famine Institute* were gaily decorated and a large pandal erected where the landholders and ryots and other distinguished guests had mustered strong to meet the Commissioner who, accompanied by Mrs. MacGregor, arrived at the pandal exactly at 5 P.M. They were received by Mr. Naik, Collector and President of the Institute, the Board of Directors and Patrons of the Institute, Mr. Salimath, Deputy Director of Agriculture, Mr. C. V. Gokhale, Assistant Engineer, P. W. D., and Mr. Yellappa, the contractor to the Wilson Anti-Famine Hall. The pandal was overfull. No less than 5 to 6 thousand agriculturists from all parts of the District had gathered to witness the function. In requesting the Commissioner to open the the Wilson Anti-Famine Institute and its Hall, Mr. Naik traced the famine history of Bijapur District from 1393 A. D. and briefly described the measures taken by Government from time to time to improve the condition of the District. In particular, he referred to the Opening in 1885 of the M. & S. M. Railway from Hotgi to Gadag which, running right through the District from north to south, has improved communications of the District. The Collector also referred to the Government Kadbi Storage Scheme under which Government have stored in 43 stalks nearly 1¼ crores lbs. of kadbi at nine depots in different Taluks and Pethas, ready for issue to ryots in bad years, experiencing fodder scarcity. Government have in the last 3 years worked out in the Bijapur District a Revised Scheme of Tagavi for Land Improvement Works and advanced Rs. 8¼ lakhs for over two thousand five hundred (2,500) irrigation well works, and bad (field embankment) works together, and these works have *been executed with success and great benefit to ryots.* Apart from these measures, it was found that for rapidly stimulating agricultural progress of the District on a large scale, a new organization to be evolved with help from both officials and non-officials was essential. The idea was soon taken up by big landholders such as Rao Saheb Sir Naik, the Nirbudiha Desai and Rao Bahadur Balakrishnadas, the last of whom also offered a contribution of Rs. 20,000 on condition that the new organization or institute to be brought into existence and its Hall to be constructed for housing an Agricultural Museum and Library *should be named after His Excellency Sir Leslie Wilson,* Governor of Bombay. In consideration of this condition attached by Rao Bahadur Balakrishnadas to his offer and in grateful appreciation of much encouragement and help always to be given to the Institute since its inception by His Excellency Sir Leslie Wilson, the Institute was, with his kind permission, named as Wilson Anti-Famine Institute and its Hall also was named as Wilson Anti-Famine Hall.

WORK OF THE INSTITUTE.

This Institute has now got 1,620 land-holder members and its assets are nearly 1 lakh 80 thousand rupees. It has got its Head office at Bijapur and 9 *Branch Offices, one for each Taluka and Petha of the* District. The ryots in villages are stimulated by the Branch Offices through the village officers (Patil and Kulkarni) to take up improved agricultural processes. The Local Mamlatdar or Mahalkari is Chairman of the Branch Office and non-officials help the Collector who is the President of the Institute and other revenue officers in encouraging ryots to develop their agriculture. The main agricultural scheme of the Institute is to get ryots to plough their lands in hot weather and soon after harvesting crops, so that rain as it falls may soak into loosened soil. Another Scheme of the Institute is to induce ryots to divide their fields into plots and to level and "bund" each plot. These processes

indeed form what is called Dry Farming and the Institute is doing its best to induce Bijapur ryots to take to these Dry Farming processes. This is, as it should be, because it is only by these processes that ryots in this District frequently suffering from shortage of rain can retain in soil as much as possible of rain water that falls on the land, and thus grow some crop even in a year of indifferent rainfall. The Institute has also introduced no less than 1,600 iron ploughs for ploughing and it is deep ploughing by the iron plough and not shallow ploughing by the wooden plough, which facilitates storage of rain water in the soil. Motor tractor, scrapers for land levelling, stone rollers, wheat threshers and machines for winnowing have all been introduced. Cattle improvement is organized by providing breeding bulls. There are now 26 such bulls in villages. More are being obtained. The District is comparatively treeless and the Institute has started a Tree-Planting movement and the ryots all over the District observed two days in June 1928 on which dates they planted seeds and cuttings observing those days as "Arbour Day". According to reports received nearly 30,000 seedlings raised by the Arbour Day are surviving 398 villages.

Groundnut succeeds under certain conditions of shortage of rain, is a paying crop and as such has been largely introduced in the District by the Institute. Improved cotton seed, san seed for green manuring, other graded seeds and mango grafts have all been supplied to ryots. For combating the smut disease of jowari, sulphur dust for mixing it with jowari seed before sowing has been supplied by tons to ryots. Efforts are being made to improve manure storage and village sanitation. Remedies for combating crop-pests such as grasshoppers and stem-borers are brought to the notice of the ryots. The important subject of secondary and cottage industries has also received attention. In particular, wool improvement, Kambli weaving and poultry improvement are encouraged. The Wilson Anti-Famine Hall which is an imposing edifice constructed at a cost of Rs.40,000 has been equipped as an Agricultural Library, and as an Agricultural Museum containing sections for land development, dry farming, implements for conserving moisture in soil, garden and field produce raised by improved processes and ordinary processes; improved wool raised by crossing local sheep with Merino ram; superior kambli weaving; village cotton cloth weaving; village carpentry; village pottery, etc. Mr. Naik, in requesting the Commissioner to open the Wilson Anti-Famine Institute and its Hall, briefly narrated how these various activities were designed to induce ryots to incorporate into their routine of husbandry improved processes of agriculture and thereby enable them to protect themselves as far as possible against famine and scarcity; conveyed his own and Institute's gratitude to all donors and patrons, and thanked his district staff of all grades for the special work they did in the cause of agricultural progress of the district.

HOPE FOR BIJAPUR AGRICULTURE.

Mr. MacGregor opened the Wilson Anti-Famine Hall, went over the different sections of the Agricultural Museum and Library and while expressing his full appreciation of the great work hitherto done, exhorted the non-official gentlemen to come forward and take a lead in the management and future development of the Institute and its branches. He specially advised ryots to take to dry farming processes, sheep improvement, bull breeding, tree planting and various other measures already initiated by the Institute under the guidance of Mr. Naik. Mrs. MacGregor distributed medals and certificates to those who had worked as propagandists for the Institute and those who had improved their agricultural system by putting to use on their own lands the Institute's prescriptions. The most remarkable among the prizes won was the Institute's "Cattle Breeding Challenge Shield," Bijapur, which was won by Galgali village in Bilgi Petha for the best-kept breeding bull under the Institute's scheme. On the close of the function Mr. and Mrs. MacGregor were garlanded on behalf of the Institute, Bijapur District Land-Holders' Association and the Depressed Classes. It is now clear to everyone that as a result of the work of the Wilson Anti-Famine Institute and the encouraging and hopeful remarks made by Mr. MacGregor, the peasantry of Bijapur District have taken a step forward in the direction of introducing on a large scale, agricultural improvements and various other anti-famine or famine-preventive measures.

Bijapur, 28th July 1929. S.

Some Queries.

SIR,—Will any of your numerous readers answer the following queries for which I would feel thankful :—

(1) Is there any instance of Life Insurance Companies being worked on a co-operative basis either in India or in western countries ?

(2) Can you suggest any scheme allied to Life Insurance which can be introduced in our Co-operative Societies or Banks for the benefit of the Members of such institutions ?

(3) Has any attempt been made to study or collect statistics of the extent and nature of rural indebtedness in several districts of the State by Government ? Is not such a survey or census essential ? Is the information available in any official publication ?

(4) Is it possible to estimate the amount of Banking business (money lending) done by foreigners (*i.e.*, persons who have no domicile in Mysore) every year ; who is to be approached for information on this point ? Is the Mysore Chamber of Commerce interesting itself on this subject ?

(5) What is the total output of production of two staple crops, *viz.*, ragi and paddy during the last 5 years in Mysore ? What is the amount of paddy required for consumption in the State ? What percentage does supply bear to the demand ? What is the increase in output since 1920 of paddy ?

"ENQUIRER."

From Kiel University Institute.

The officer-in-charge of the Kiel University Institute, Kiel, writes to us under date 20th August 1929 :—

"We have received Vol. 15, No. I of the *Mysore Economic Journal*, which we find most interesting. We are sure that this review would prove of the greatest value and importance for our research work, and therefore beg to make the proposal of establishing exchange relations between you and this Institute.....This University Institute, which is an important centre for scientific investigations in international economy continually receives....about 4,500 periodicals from all countries in the world, the contents of which are carefully studied by our departments and use for their scientific researches....Our Library comprises over 1,20,000 volumes."

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Books in Brief.

Short Reviews of Recent Books.

An Introduction to Industrial Administration.

By John Lee, C.B.E., M.A., M.Com.Sc. Sir Isaac Pitman & Sons, Ltd., London. *5sh.* net.

The unavoidable delay that has occurred in the reviewing of this publication has helped rather than hindered its wider publicity in this country. We are reviewing it at a time when the Whitley Commission is just beginning its labours in India. A better or a more comprehensive book on Industrial Administration we can hardly think of than this one which bears evident testimony of the author's practical knowledge of the problems he treats of. From cover to cover it is packed with the most up-to-date information, written in a style both simple and non-technical. For the ordinary businessman it cannot any longer be an excuse if he does not know the administrative side of his daily work. Whether it is capital or wages, the organization of industry or training, research, costing and planning, standardization of process and product or salesmanship, the purpose of industry or its future, Mr. Lee has done his part of the work with zealous care, scrupulous disinterestedness and absolute accuracy. The suggestiveness of his remarks is another feature which recommends itself to us. His wide knowledge and wider reading has enabled to cover the large ground he has within a comparatively small compass—just 200 pages. It is a marvel of good workmanship in bookmaking, not of the compilation type but of the serious scientific first-hand sort. The bibliography is short but thoroughly representative, while the Index ought to prove helpful. For *5sh.*, the book is more than worth its value. Messrs. Pitman deserve to be congratulated on their adding this volume to their well-known *Business Handbooks*. To-day the need for the study of books of this kind in India is great. Industrial growth here requires to be fostered and that is impossible if those interested in it do not take adequate care to drill themselves in the practical principles of business administration. Joint-stock enterprize has come to stay; so have factory laws and workmen's compensation laws and the like. And then there is the Trade Union spirit which is both necessary and valuable, which has already taken possession of the labouring classes. All this connotes the need for self-training in the management of industries and the principles that should guide it. Here is a book that gives us the requisite information and the businessman will not discard it. This is a book that ought to be in every factory and business office and studied with care and attention by all interested in the growth of industrial development on sound lines in this country.

Co-operative Economics and Finance.

By E. S. Sunda, B.A., B.L. *The Madura Co-operators' Associaiton, Madura.*

This booklet deals with current co-operative problems and raises questions of a practical character. It is a typical production of its kind. It sums up in definite terms the difficulties felt in certain directions and suggests remedies. Mr. Sunda invites criticism and frankly wants people to bring into the hotchpot their solutions for the problems he sets forth. We feel the call and we would unhesitatingly sum up in one word our answer to his many questions. It is "Rural Reconstruction". Co-operation is not mere borrowing; not mere audit; not mere filing of suits; nor even Registrar's decrees. It means something more than all this. It should lead to *rural well-being* and that is impossible *until Rural Reconstruction* is taken up in earnest and pushed through by a special agency—Rural Civil Service, if you so like to style it. It is only then a transformation scene will be visible. Mr. Sunda suggests the "Revenue Department" in his first paper. Far be it from us to decry its many merits and its great patience with the public. It bears the heaviest burden and its work is there, in its own sphere, cut out for it. Why burden it with this work as well, work for which it is neither temperamentally nor by training fit. A missionary zeal is required for rural co-operative work and if co-operation is to succeed, in the present conditions, in our rural areas, it is necessary to locate resident co-operators—specially trained for the purpose—in *selected centres and charged with the duties of their* office. Till then co-operation has little chance and rural work is sure to land Banks, Federations and Unions into trouble. The total private indebtedness of India has been estimated at Rs. 850 crores, while the total working capital of co-operative societies of all kinds is about Rs. 58 crores (1925-26). Why has co-*operation not yet succeeded all over India in the man*ner in which it has done in the West? Mr. Sunda will find the answer in the general literacy of the West, and even of Japan; whereas the rank illiteracy of the masses in India has proved a stumbling block. For wiping out illiteracy, co-operation itself is the remedy but the methods of work should be changed and that is why we suggest a special Rural Civil Service Agency. Public opinion must concentrate on this point to an increasing extent if success is to be achieved.

The Unifying of Civilization.

By G. Davies Watkins, B.Sc. (Economics), F.R.G.S., University Reader in Geography, University of Madras, and Professor of Geography, Madras Christian College, Madras. C. L. S., Madras. Price Re. 1.

The sub-title of this book is the League of Nations and it is generally descriptive of its civilizing work. Originally delivered as a course of University Lectures at Madras, in 1927-28, it has been, in a slightly revised form, issued for the use of the general reader. That idea is a happy one. For nobody with any knowledge of the last Great War would ever wish anything but the greatest success to the League of Nations and its work. That League and its healing work can only succeed by better and increasing publicity of its ideals and doings. Mr. Watkins has done well, accordingly, in undertaking the course of lectures this book represents We have read it through carefully and we think he has succeeded in presenting accurately the origin, constitution and working of the League and the International Labour Office, its twin sister. Mr. Watkins would have done well—especially in a book of this nature intended for University students and the general public—not to enter into censorious criticism of men and things as he does, for instance, on pages 95-96. Whether Mr. Gandhi is right or not, it is needless to style

him, in a rather offensive manner, "India's worst enemy" (page 95) or to suggest that he is living "in the self-deluding paradise of a fool." The question of production by machinery—especially mass production—can certainly be discussed dispassionately without disparaging references of this type to Mr. Gandhi and his followers. Mr. Watkins will doubtless agree with us, on reflection, that questions of this kind are best discussed without the smallest reference to personalities. Nor is Mr. Watkins quite happy in certain of his other statements. Take, for instance, the statement that "*India is over-populated in comparison with her food supply*" (page 95). Now, large populations have their own use—the last War demonstrated this almost to a fault. It became the fashion to proclaim, not so long ago as the year 1919, that the future lay with the country with the largest population. Then, as to food supply. While a seventh of the Indian population is going with but one meal a day, rice worth 40 crores of rupees is being exported from India every year. Has Mr. Watkins —he is a B.Sc. in Economics—enquired why this is so? If rice is available in India and yet people cannot obtain it, what does it mean? Mr. Watkins must endeavour to reason it out for himself, if he desires to convert others to his view. These pages are not open to anything savouring of political controversy and we would not willingly pursue this matter any further. Our point is Mr. Watkins should not go beyond the permissible lengths in doing his work as a distinguished academic lecturer on the work of the League of Nations and the I. L. O. That is very good and very desirable good work to do and we would have him do it without casting a stone at others, without any need or profit unto himself or his audience. This apart, we have pleasure in commending the book which deserves to be widely read. We would like to add that the last chapter headed "India and the League" deserves to be re-written; as it is, it seems too scrappy. We would invite attention to an unfortunate misprint on page 166 (the last page) where the words, "philosophic and thought", 5th line from bottom, should evidently read "philosophic thought", the "and" being unnecessary.

Student Life in the West.

By *A. J.* Appasamy, M.A. (Harvard), and D.Phil. (Oxon), C.L.S., Madras. Price As. 8.

Mr. Appasamy has managed to set down in 80 pages, crown octavo, a large amount of very readable and useful matter about University life in America and England. Of Harvard of American Universities and Oxford of English, Mr. Appasamy gives us vivid pictures of the student life lived in it. His entertaining style, his personal touches and his human interest in the subject he writes of, mark his book as one of the best of its kind which has so far appeared in this country. Students of all denominations should read it and try to know how their compeers in the West learn or rather imbibe learning and culture. Mr. Appasamy's picture of Oxford and the position of women students in it have left a sad impression on us. It seems a pity that at such a cultured seat of learning, women students should be so much tabooed. Oxford men who desire to criticize the position of women in other countries, ought to beware! It is high time they made more strenuous attempts to set their own house in order. Women of learning in India have ever been revered and, according to certain texts and religious sects in India, women can even be *gurus*. Mr. Appasamy's description of how students "earn their way through College" in America has a moral of its own. There is little chance of the device striking root in India unless the colleges help the students to do so. The Oxford idea of higher education being an aristocratic privilege has been unduly featured in India and it will be long before it dies. Till it ceases to exist, this American feature of student life cannot reproduce itself in this country. There are many things in this charming little book to refer to but they cannot be retailed here. Students and parents alike should order their copies—and they cannot do worse than invest 8 annas on it—and read it for themselves. To *those who have designs of going "West" for their* studies, we heartily commend this book which they would do well to read, mark and inwardly digest.

Indian Practical Banking.

By O. S. Krishnamoorthy, with a Foreword by G. Findlay Shirras, M.A. (Hons.), F.S.S., I.E.S. Messrs. Taraporevala Sons & Co., Hornby Road, Bombay. Price Rs. 2.

That a second impression of Mr. Krishnamoorthy's book should have been called for within so short a time of its original publication shows the immensely practical and accurate character of its contents. A book of this kind has long been a desideratum in this country where Joint-Stock Banking is assuming an importance all its own. Though there are excellent little books dealing with Banking in England, the peculiarities of the Indian Banking System do require a book to itself. Mr. Krishnamoorthy has filled the void well by producing so well-written a book as this one. His intimate personal knowledge has enabled him to make his description of banking practice both simple and intelligible. A book that should be in the hands of every layman who has or cares to have a banking account. A book too that ought to help in fostering that patriotism of a banking account that is so badly needed in this country and for which a Committee has already begun to do its work.

Essays in Canadian Economic Problems.

Vol. II, Competition 1928-1929. Published by the Royal Bank of Canada, Montreal.

This volume contains six competition essays of which Kathleen E. Best's essay on the "Economic Aspects of *the St. Lawrence Waterway Plan*" won for its author a $1000 Graduate Fellowship at any Canadian University. Miss Best's essay was, through the courtesy of the Economist of the Royal Bank of Canada, Montreal, its publishers, printed in the pages of this *Journal* not many months ago. The other essays published in this volume deal with the coal problem in Canada, Canadian opportunities in the New Zealand market, Canadian commerce in the Caribbean and the Sources and Relative Merits of the Federal Revenues. Of these, Mr. S.A. Saunders' essay on the Coal Problem in Canada attained the second place. Opportunities for competitions of this kind deserve to be encouraged in trade circles in this country as an incentive for the study of the National Economics of India. Systematic studies of economic problems among the rising generation ought to be encouraged by prizes, medals and studentships if we are to advance in economic prosperity. That is the moral of this publication, so far as India is concerned. The Royal Bank of Canada deserves to be thanked for pointing the way in this connection.

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Mahatma Gandhi as an Economist.

By The Editor.

Well might a puzzled student of Economics cry halt and ask for enlightenment when critics, small and great, pretend to understand (or rather misunderstand) Mahatma Gandhi and his mysterious Spinning Wheel and write him down a fanatic, if not worse, in the economic field. Whether he is right or wrong, there is no *question that the Wheel has come to stay*—rather its stay has been rendered perpetual. Mahatma Gandhi has not claimed to be the inventor of the Wheel any more than the idea of Production underlying it. He is, as he described himself on a famous occasion, a Weaver and he symbolizes in himself the restoration to its rightful place of the primary cottage industry of this country. His suggestion—some would call it his battle-cry—is that through the Charka is the Freedom of this country. It *does not matter what kind of Freedom he is* thinking of here, Economic or Political. There is hardly any reason to misunderstand him in this connection, for the Politics of a Nation or Country is nothing more than the application to society of certain principles of well-being. The Economics and Politics of a Nation are too closely connected to be capable of easy separation. As society differs infinitely in its make-up from region to region, from country to country and from continent to continent, the particular principles which one country applies may not be suitable to another. In this sense the principles of the *Science* of Economics differ from the *Art* of Economics. This is where the difference lies between the doctrines as such of Economics and their practical application. The doctrines themselves—they are sometimes called Laws, laws dealing not so much with the simple laws of human nature as with the laws of complex social facts resulting from such simple laws of human nature—are only indications of possible tendencies in an assumed condition of society, which, after all, might nowhere exist, but which, if they were allowed to operate, would presumably produce certain results. They are not like the laws of the Medes and the Persians unchangeable or even distantly conceived to be so. *They are accordingly subject* to modification, adjustment or alteration as the circumstances of nations and countries require it. *If this were not so, economic concepts* would be barren, abstract and unintelligible formulæ and their utility to society would be next to nothing. If human well-being is not to be attained through the instrumentality of the Science of Economics, we reach a stage where that science becomes truly "dismal". Progress would be marred and a *stationariness of society would be reached* which would be more appalling in its consequences than anything imaginable in the whole domain of man's social history. That, however, would be a startling misrepresentation of Economics as a Science. To people brought up exclusively in the tradition of *Laissez Faire*, such a statement as this might seem anathema, but a little consideration will show that that doctrine has its limits set on it and even the strongest upholder of it has tried to admit that there are nations and countries and conditions of society where it cannot be allowed to have undue or uncontrolled sway. Here is a passage from J. N. Keynes which elucidates this remark:—

"Abstract economic doctrines are for the most part based upon the assumption of free competition and absence of Government interference. This assumption may indeed be said to have occupied a central position in the development of economic theories during the last hundred years. There are two reasons

why this has been so. One is to be found in the general principle of reasoning that it is best to take the simplest cases first. If we can accurately determine what will ensue under conditions of economic freedom, we shall be the better able to deal subsequently with more complicated cases, and to estimate the influence exerted by various interfering agencies. The second reason is that in modern economic societies *laissez faire* has been, as a matter of fact, the general rule. Conclusions, therefore, based on the assumption of non-interference, have more nearly corresponded with the actual facts of modern industry than those that could have been obtained from any other equally simple hypothesis. Beyond this, however, there is no essentially necessary connection between political economy and *laissez faire* regarded as a basis of reasoning. Economists recognize that in certain states of society, actual or possible, the conditions are so different from those of modern industry that conclusions depending on the hypothesis of non-interference are not even approximately applicable. Moreover in relation to modern economic phenomena themselves, it becomes necessary ultimately to deal with more complex problems in which various interferences with thorough-going competition have to be taken into account. The assumption *laissez faire* represents, therefore, only a preliminary stage and by its aid we traverse only a portion of the ground that has to be covered in the course of our economic reasonings.

"A little reflection will show that it is far from being the case that political economy always pre-supposes the absence of Government interference. It investigates the effects of export and import duties, of bounties, and of State-created monopolies—such as the opium monopoly of Bengal. It seeks to determine the influence exerted on wages by the existence of poor relief guaranteed by the State. In nearly all modern currency discussions—as, for instance, those relating to bimetallism or the regulation of convertible paper currencies—the whole argument is so far from being based on the assumption of *laissez faire*, that everything turns on the supposition that some control over the currency is exercised by Governments. In short, wherever Government intervention becomes a prominent factor, the economist recognizes and discusses the influence exerted by it; and if in the future the part played by the State in economic affairs is extended, account will have to be taken of the fact in current political economy."

Laissez Faire has thus to be considered only as an assumption or basis of reasoning. Though it is a common economic postulate, it is not to be supposed that it is a necessary economic precept. It is because some leading economists have frequently confused these two quite different questions that they have in their practical teaching expressly advocated a general policy of non-interference with trade and industry. *Laissez Faire*, however, is not an integral part of Economics any more than any other maxim of conduct can be so described. If the maxim of natural liberty is thus exploded—and it is denied that it is a fundamental maxim of Economics—then the position is rendered clear. Economics is not to be identified with the art of making wealth a maximum, nor are we to forget the necessarily hypothetical character of such an art. We are prone to mistake the fundamental character of Economics if we do not bear this fact in mind. Keynes says:—

"It is of little use to protest that economic precepts are not necessarily to be acted upon. If we have once formulated maxims of policy and proclaimed that economic principles are directly practical, the impression that economists desire to subordinate all consideration to the increase of wealth, will certainly be encouraged. If, however, it can be made clear that economic principles are in themselves positive, and that, whilst Economics shows, amongst other things, how laws and institutions influence the production and accumulation of wealth, still it does not itself base any rules of action upon such knowledge, but merely places the results of its investigations at the service of the legislator and social reformer, to be by them duly weighed and considered, then the chance of such misapprehension will at any rate be reduced to a minimum."

This means that economic maxims are only, at least in certain cases, conditional.

"They cannot claim to be absolute, until we have *taken into account all classes of considerations that* may in any way be pertinent. In framing maxims of taxation and State finance, for example, political and social aims have to be borne in mind as well as equitable and strictly economic aims. The same may be said of free trade and protectionist maxims. Again, in seeking to determine what is the ideal distribution of wealth, we ought to consider not merely the relation of distribution to desert but also the manner in which methods of distribution affect the various other elements of social well-being. The individualistic organization of industry is by some writers condemned on the ground of the anti-social spirit, engendered by the competitive struggle. On the other hand, the socialistic organization of industry is by a different set of writers condemned on the ground that it hinders the realization of individual freedom, and the development of individual character. Both these arguments are independent of the effects of socialism and individualism on the production and distribution of wealth."

We have offered these remarks in order to impress on the reader the fact that economic maxims have to be understood as possessing only a relative value; that they are true in so far as they are understood as subject to certain limitations; and that in their application to countries and nations differing from each other, note will have to be taken of their particular circumstances and conditions and that even in regard to the same country, what may be applicable to it at one stage of its history may not be applicable at another. Numerous instances can easily be quoted from history to illustrate these remarks, but that is hardly necessary for our present purpose. Take, for instance, Great Britain to-day. The War has rendered her position difficult; not only that, relatively to the United States, it has suffered enormously in her economic position. The League of Nations *Monthly Bulletin of Statistics* for November 1928 shows how while

Germany has gone down, the United States has gone up :—

Country	1913		1927	
	Exports in Millions of Dollars.	Percentage of World Trade	Exports in Millions of Dollars.	Percentage of World Trade.
Great Britain	2,556	13.9	3,447	11.3
U. S. A.	2,448	13.3	4,758	15.6
Germany	2,403	13.1	2,428	8.0

From a debtor country, the U. S. A. has to-day become the greatest creditor country in the world. Formerly its main exports were food-stuffs and raw materials ; to-day her manufactured goods are ousting British goods from the markets of the world. This intensified economic activity on her part made it incumbent on England not only to revise her ideas about Free Trade and Protection (*pace* the Safeguarding of Industries Act, etc., passed during the Conservative regime) but also to prevent the possibility of an economic war. We have evidence of the competition of the United States as against Great Britain not only in its foreign trade—in South America, Canada, Australia, India and China, but also in Europe itself. The competition is extending from export of foods and basic raw materials (such as oil, rubber and cotton) to shipping and finance. With the export of capital, goes a large measure of control and domination, both of raw materials and markets. Her higher rate of accumulation has enabled the United States to displace Great Britain as the world's chief exporter. As a recent writer in the American Press points out, the United States export of capital reached in 1927, $1,500,000,000 (gross) ; the British figure was only some $650,000,000, or less than half. This process has been going on since 1914 and is now becoming intense. During the past year, the United States ousted Britain from her position of domination in South America. Her economic pressure is being felt in other parts of the world—in Canada, Australia and India. American influence in Germany is immense. Of the total German wealth of about 60 million dollars, one-fourth belongs to American foreigners. Similarly Italian industries are heavily mortgaged to the United States. The new orientation of the dominions to the United States, the crisis over the General Electric Company and the sale of the half share of the Tata Managing Agency are all indicative of the tendencies of the times. This position is reflected in the strategic and diplomatic combinations which we have been witnessing since 1927. We are seeing its latest phase to-day with the Macdonald-Hoover negotiations. The root of the trouble is to be found in the interplay of economic forces. And if they have to be controlled effectively and war averted, the western economic system, which is based on monopoly, competition and profit-making by mass production, has to be controlled. There are those who desire to replace it by a system of internationally organized social production. How far these latter—represented by the Leftists of the Labour Party—are capable of influencing the public in their respective countries is still a problem. The change indicated from the so-called capitalistic production to the system of internationally organized social production is a vast one, no doubt, but that is sufficient to show how old-world economic maxims have to give place—even in advanced western countries—to newer concepts which are more in keeping with the tendencies of the times. Even England is visibly moving away from its cherished doctrines and adapting herself to the new environment brought into being by changes in the world conditions.

In India, the economic position is easily summed up in one word—Poverty. The total private indebtedness of the people has been estimated at Rs. 850 crores. It is but a truism to say that while a seventh of the population go with but one meal a day, rice worth Rs. 40 crores is being annually exported from India. How comes about this ? How is this export made good to India ? The answer to this question will be found in Mahatma Gandhi's Charka campaign in this country. Crude criticisms of a kind have now and again appeared on it (one recent attempt being enshrined in the pages of a brochure entitled the *Illusion of the Charka* by Mr. Anilbaran Ray) but they will not bear close examination. The fact of the matter is, India is suffering economically from the effects of its general political position. John Stuart Mill summed up this in his *Representative Government* in words that deserve to be quoted :—

"The government of a people by itself has a meaning and a reality ; but such a thing as government of one people by another, does not and cannot exist. Our people may keep another as a warren or preserve for its own use, a place to make money in, a human cattle farm to be worked for the profit of its own inhabitants. But if the good of the governed is the

proper business of a government, it is utterly impossible that a people should directly attend to it."

Mill, whose study of Indian experience was truly profound, drives home the truth of the above observation by the use of the *argumentum ad hominem*. He writes :—

"Let anyone consider how the English themselves would be governed if they knew and cared no more about their own affairs, than they know and care about the affairs of the Hindoos. Even this comparison gives no *adequate idea of the state of the case : for a people* thus indifferent to politics altogether would probably be simply acquiescent, and let the government alone : whereas in the case of India, a politically active people like the English, amidst habitual acquiescence, are every now and then interfering, and almost always in the wrong place. The real causes which determine the prosperity or the wretchedness, the improvement or deterioration, of the Hindoos, are too far off to be within their ken. They have not the knowledge necessary for suspecting the existence of those causes, much less for judging of their operation. The most essential interests of the country may be well administered *without obtaining any of their approbation, or* mismanaged to almost any excess without attracting their notice."

Mill then considers the purposes for which the dominant country interferes in the affairs of the subordinate country. He groups them down under two heads. "One is," *he says*, "to force English ideas down the throats of the natives ; for instance, by measures of proselytism, or acts intentionally or unintentionally offensive to the religious feelings of the people." In other respects, *he adds*, "its interference is likely to be oftenest exercised where it is most pertinaciously demanded, and that is on behalf of some interest of the English settlers." On the latter head, he writes at length. He says:—

"English settlers have friends at home, have organs, have access to the public ; they have a common language and common ideas with their countrymen ; any complaint by an Englishman is more sympathetically heard, even if no unjust preference is intentionally accorded to it. Now, if there be a fact to which all experience testifies, it is that when a country holds another in subjection, the individuals of the ruling people who resort to the foreign country to make their fortunes, are, of all others, those who most need to be held under powerful restraint. They are always one of the chief difficulties of Government. Armed with the *prestige* and filled with the scornful overbearingness of the conquering nation, they have the feelings inspired by absolute power, without its sense of responsibility. Among a people like that of India, the utmost efforts of the public authorities are not enough for the effectual protection of the weak against the strong : and of all the strong, the European settlers are the strongest ; whatever the demoralizing effect of the situation is not in a most remarkable degree corrected by the personal character of the individual, they think the people mere dirt under their feet : it seems to them monstrous that any rights of the natives should stand in the way of their smallest pretensions : the simplest act of protection to the inhabitants against *any act of power on their part which they may consider* useful to their commercial objects, they denounce, and sincerely regard, as an injury. So natural is this state of feeling in a situation like theirs that even under the discouragement which it has hitherto met with from the ruling authorities, it is impossible that more or less of the spirit should not perpetually break out. The Government itself free from this spirit, is never able sufficiently to keep it down in the young and raw even of its own civil and military officers, over whom it has so much control than over the independent residents. As it is with the English in India, so according to trustworthy testimony, it is with the French in Algiers ; so with the Americans, in the countries *conquered from Mexico ; so it seems to be with* the Europeans in China, and already even in Japan (Mill was writing in 1861) ; there is no necessity to recall how it was with the Spaniards in South America. In all these cases, the Government to which these private adventurers are subject, is better than they and does the most it can to protect the natives against them...... The settlers, not the natives, have the ear of the public at home ; it is they whose representations are likely to pass for truth, because they alone have both the means and the motive to press them perseveringly upon the inattentive and uninterested public mind. The distrustful criticism with which English*men, more than any other people, are in the habit* of scanning the conduct of their country towards foreigners, they usually reserve for the proceedings of the public authorities. In all *questions between a Gov*ernment and an individual, the presumption in every Englishman's mind is, that the Government is in the wrong. And when the resident English bring the batteries of English political action to bear upon any of the bulwarks erected to protect the natives against their encroachments, the executive, with their real but faint velleities of something better, generally find it safer to their parliamentary interest, and at any rate, less troublesome, to give up the disputed position, than *to defend it.*

"What makes matters worse is, that when the public mind is invoked (as, to its credit, the English mind *is extremely open to be) in the name of justice and* philanthropy, on behalf of the subject community or race, there is the same probability of its missing the mark. For in the subject community also there are oppressors and oppressed ; powerful individuals or classes, and slaves prostrate before them ; and it is the former, not the latter, who have the means of access to the English public. A tyrant or sensualist who has been deprived of the power he had abused, and instead of punishment, is supported in as great wealth and splendour as he ever enjoyed ; a knot of privileged landholders, who demand that the State should relinquish to them its reserved right to a rent *from their lands, or who resent as a wrong any attempt* to protect the masses from their extortion ; these have no difficulty in procuring interested or sentimental advocacy in the British Parliament and press. The silent myriads obtain none."

Mill's description of the so-called House of Commons' rule of India is *no mere exaggeration.* He was an acute observer and what he wrote is still true, whether as regards India, Kenya or China, or even other countries which can be easily named. He was strong in his convictions and he wrote as one who felt keenly on the subject. Summing up the effects of such a system of government, he remarked :—

"*The preceding observations exemplify the opera*tion of a principle—which might be called an obvious one, were it not that scarcely anybody seems to be-

aware of it—that while responsibility *to the governed* is the greatest of all securities for good government, responsibility to somebody else *not only has no such* tendency but is as likely to produce evil as good. The responsibility of the British rulers of India to the British nation is chiefly useful because, when any acts of the Government are called in question, it ensures publicity and discussion; the utility of which does not require that the public at large should comprehend the point at issue, provided there are any individuals among them who do; for, a merely moral responsibility not being responsibility for the collective people but to every separate person among them who forms a judgment, opinions may be weighed as well as counted and the approbation or disapprobation of one person well versed in the subject, may outweigh that of thousands who know nothing about it at all. It is doubtless a useful restraint upon the immediate rulers that they can be put upon their defence, and that one or two of the jury will form an opinion worth having about their conduct, though that of the remainder will probably be several degrees worse than none. Such as it is, this is the amount of benefit to India, from the control exercised over the Indian Government by the British Parliament and people."

One need not wonder that after this indictment, *Mill should pronounce the following* verdict :—

"A free country which attempts to govern a *distant* dependency, inhabited by a dissimilar people, by means of a branch of its own executive, will almost *inevitably* fail."

And who will say it has not? Mill's prediction has come only too true and the whole of Mahatma Gandhi's suggestion is the same. *He thinks that the system is wrong and should* be replaced and the chief argument, by which he seeks to support it, if shorn of all the current shibboleths that surround it, is one derived from the economic condition of the *people, a condition due, in his opinion, to the system* of government prevailing. Here is the true *raison d'etre* of his *Charka* and the persistency with which he has put it forward during the past decade. He is a humanitarian, first and last, and his love for *the suffering* millions is great. That he is, in the main, correct is proved by the close reasoning and mature judgment of Mill than whom none, in his generation or after, has known India better. With the possible exception of Morley, his chief disciple and the late Mr. Montagu, his disciple's disciple, none subsequent to him has *comprehended the position in this country* as acutely as he. Morley, in fact, uses the identical argument time and again in his references to India and it is this that led him to change the system in so far as he could during the time he held office as Secretary of State for India. Here is a passage taken from an article of his in the *Fortnightly Review* (1866) on England and the Mysore question (as it was called in the sixties of last century) which is not only an echo of Mill but which also partially quotes him :—

"It is no cynical exaggeration to say that the amount of active political sympathy in England with the affairs of her Colonies, and of the great Indian Empire, is, comparatively speaking, very small. Of passive well-wishing there is an abundance for which the people of other countries, misled by traditions of selfishness and rapacity that have long ceased to be true, unjustly refuse to give us the least credit. Englishmen at large desire nothing more than that the natives of India, for example, should have the best government which can be devised to meet their special circumstances. They detest nothing more than the notion that England has a right to look upon India (here, he is quoting from Mill, from the very passage we have cited above) 'as a warren or preserve for its own use; a place to make money in; a human cattle farm, to be worked for the profit of its own inhabitants.' But general goodwill of this sort is not sufficiently *direct* and forcible when you have a whole army of officials in the country imbued with special *sentiments not exactly the reverse of this, but in* effect, at all events, something exceedingly like the *reverse. We can scarcely wonder that those who have* no personal or immediate interest in Indian affairs *should content themselves with the consciousness of* their own honest wishes for the happiness and prosperity *of India, without descending into the details of* Indian administration—repulsive as these details are from their technicality, the uncouthness of their phraseology, the unfamiliarity of the ideas which underlie them, and the remote, unusual air of the historic events with which they are in most cases so closely connected. But though this ignorance, and the consequent impossibility of anything like an active public supervision of Indian administration, are very easily explained and very natural, they are particularly unfortunate when we remember that this is the only kind of supervision with the extinction of the Company and the transfer of its authority to the Crown have left. Theoretically the Government of India is after the most perfect type. There is a single minister with undivided *responsibility*, but assisted in the formation of his judgments by a Council of men with special knowledge and experience in the matters of the department, and each of whom registers the reasons of his dissent from a decision of the Chief Minister. But to whom is the Chief responsible. The efficacy of responsibility consists in its being exacted by those in whose interests the minister is intrusted with power. The Indian minister is expected to govern in the interests of the people of India. He is responsible, not to the people of India, but to the people of England; that is to say, to those, who, from their own natural and almost inevitable ignorance, are unable to judge, with any pretensions to accuracy, of the merits and demerits of his conduct. Obviously this is not responsibility at all in the sense in which responsibility is the safeguard and warranty of the judicious use of authority........There is, however, no end to the evils that must accrue where the minister is practically irresponsible, where the public rest tranquil in the *security of his* theoretic but fictitious responsibility. Indeed, this is precisely the most dangerous state of things that any confusion of political ideas can possibly produce."

Mr. Montagu's analysis of the position and his characterization of the system of government as "wooden" and "soulless"—as

impervious to sympathy and incapable of improvement—is too well known to need any further elaboration to-day. His remedy was not merely a large-minded one but also the only true one: the introduction of the very element of *responsibility to the people of India* by the Government of India and not that of a virtually absolute minister to the House of Commons in England. The only rational development of it can be, whether in one or more stages, an enlargement until such responsibility becomes an accomplished fact in full and both in fact and in law. There is no half-way halting house between partial responsible government and full blown responsible government. No statesman, with any regard to his reputation or his political future, could ever recommend a course of action that would detract from the aim set out in such plain and unmistakable terms as in the Declaration of twelve years ago.

This, however, is only by the way. We are here concerned not so much with the political argument as with the economic. As experience shows every unredressed or neglected economic grievance—agrarian, industrial, public utility or other—has a tendency to become a live political issue before very long. This is especially so where the neglected duty pertains to the primary needs of man which, in every government, have corresponding duties imposed or supposed to be imposed on it. Among these are the duty to preserve, the duty to protect and the duty to perpetuate. These duties, in other words, relate to the providing of food and clothing, education and cultural development, and the perpetuation of the race under conditions that will help to maintain it on reasonably sound lines, sound to itself and sound to its neighbours. A cold and severely practical, yet eminently idealistic person, Mahatma Gandhi has caught the central fact in the economic situation of this country and has rivetted the whole of his attention and that of the country on it. This fact has reference to food, raiment and race development. Those who cannot analyse things as he does may not or cannot follow him in his logic. His reasoning, however, is not merely logical but also practical. Without the destruction of poverty, the race cannot survive. The poverty of the poor is, in his opinion—as it ought to be in the opinion of every thinking man—their degradation. The first plank, therefore, in his argument is poverty should go. To conquer it, weaving, the main cottage industry of this land, should be restored to its pristine eminence. Like the Gadaba, he would have no man wed a woman who could not weave and who has not woven, by her own hands, her own clothing. If this restoration involves the loss of trade to others elsewhere, he thinks that trouble there—in their own lands—should be redressed on its merits by its own leaders. He thinks that such redressing is possible and not only possible but also desirable in the interests of the nations concerned. The theory of boycott as a political weapon is an invention of those who cannot or will not understand Mahatma Gandhi. Finally, he thinks that the propagation of the race in this sub-continent requires continued attention. His ideas on poverty in India and birth-control should be read together; if people did that, they would soon realize why he attaches so much importance to Brahmacharya. The whole of his programme of action is thus seen to be co-related and if one does not endeavour to see this co-relationship between them and grasp it, there is every danger of his not understanding him or the basis on which he would much like he should be understood. The kernel of his position may, all the same, be summed up in the words—**Destroy Poverty.**

Understood this wise, Mahatma Gandhi's political creed is nothing more than his economic creed. If any attempt to realize that creed involves issues other than strictly economic, these, in his opinion, should go. A wise government would read the signs of the times and adapt itself to the changing conditions, and if they did so, Mahatma Gandhi would be their first friend and colleague and active worker, too, in their behalf. But vested interests of the kind described by Mill have proved too strong and the movement towards the abolition of the wrong *system* of government on which the whole fabric of Indian administration depends, has been tardy and half-hearted. The consequence has been the whole country is getting involved in an upheaval which, unless rightly handled, is bound to unsettle things in a manner that may not be to anybody's benefit. Politicians should remember that change is the one thing permanent in this impermanent world.

That Mahatma Gandhi's campaign for the economic regeneration of this country is well conceived and despite the tremendous odds against him succeeded remarkably well, there can be no gainsaying. Within the short period of five or six years, the popularization of home-spuns has gone so far as to make even unbelievers rub their eyes and see what has been accomplished by voluntary workers—unpaid or ill-paid. According to a statement recently issued, covering the work of the two months,

March and April (1929), it is seen that the Khadi propaganda in this country has had serious effects on the import of Manchester cloth. More positive evidence is afforded by the Khadi sales effected during the preceding quarter. The All-India Spinners' Association Khadi Stores throughout the country sold, it would appear, between the months, January to March 1929, Khadi worth over Rs. 11 lakhs as against a little over Rs. 7 lakhs during the same period in 1928. This record indicates a rise of nearly 44 per cent. The expense incurred for effecting these sales is certainly instructive. *During the quarter referred to, the total expenditure incurred amounted to Rs. 626-11-0, including Rs. 358-8-0, spent on printing propaganda literature. That seems honorary work* with a vengeance even for India, where such work is common! The Report we have referred to above furnishes the essential facts relating to the replacing of imported by indigenous cloth. The following facts are taken from it :—

Foreign yarn and cloth imported	..Rs. 66 crores.
Total cloth consumed per head	..13 yards.
Village population	..29 crores.
Persons dependent on agriculture	..23 crores.
Persons employed for part of the year	..11 crores.
Agricultural Indebtedness of India	.Rs. 700 crores.
Average daily income per head	..1 anna 7 pies.
Average daily income from spinning	..1 anna.
Total *employees in mills, factories,* workshops and industries	..15 lakhs.
Capital invested in textile mills	..*Rs. 51 crores.*
Persons employed in textile mills	..3 4/5 lakhs.
Capital invested in Khadi by A. I. S. A.	..Rs. 21 lakhs.
Persons employed by A. I. S. A.	..*1 lakh.*
Cost per head of giving employment through mills	..Rs. 1,328
Cost per head of giving employment through hand-spinning	..Rs. 21
Proportion of wages for labour to cost of mill cloth	..25 %
Proportion of wages for labour to cost of Khadi	..75 %

Mahatma Gandhi *in quoting these figures* remarks that the figure given under the head of "foreign yarn and cloth imported" is an *under-estimate.* He, *however, takes it* as an error on the right side and makes the characteristic comment that the amount of Rs. 66 crores paid by this country for *imported yarn* and cloth means that we are paying "a tax" per head of over Rs. 2 per year and that it is "a tax which we pay for our idleness". "If," he adds, "the 66 crores of rupees could be kept in the country and circulated among the 11 crores who are unemployed for four months, they will have Rs. 6 added to their income for part employment during the year, a by-no-means insignificant addition. The service rendered *by indigenous mills compared to that* rendered by Khadi appears too insignificant to be of any account. They can never cope with the problem of the terrible unemployment of millions of men and women, and even the few labourers for whom they can find employment get only 25 per cent of the cost of textile manufacture, whereas the labourers for Khadi get 75 per cent for work done in their own cottages and without the demoralizing atmosphere that surrounds factory labour." In another place he says that every rupee spent in purchasing Khadi brings relief to the starving. According to careful calculations made, it is *distributed as follows* :—

	Rs.	A.	P.
Cotton grower	0	3	9
Ginner	0	0	6
Carder	0	1	9
Spinner	0	3	9
Weaver	0	4	9
Washerman	0	0	6
Salesman	0	1	0
Total ..	1	0	0

Commenting on this distribution, Mahatma Gandhi writes :—

"Thus not a fraction of the rupee leaves the country if it is invested in Khadi, and the whole of it goes to the deserving poor, the workers in the fields or in the cottages of India, whereas a rupee given for foreign cloth may mean, with the exception of 1 anna for the salesman, that it is sent out of the country at the expense of its own starving people, and if the cotton of which this cotton cloth is made, is grown in India, 3 annas 9 *pies might find their place out of the rupee* into the pockets of the cotton grower. But even there the *speculator divides the* 3 *annas* 9 *pies* with the grower. But for the huge export of cotton from India we should not have *the ruinous gamble in the* shape of cotton speculation which goes on every day in Calcutta and Bombay. Will the patriots understand this simple national arithmetic and shun foreign cloth for ever?"

A recent critic has urged that supporters of Mahatma Gandhi's Khadi policy have "*overlooked that the ratio between the labour* involved and the return is totally inadequate and the monotony of the work renders it impossible to pursue it for any length of time." The suggestion that the return for labour is inadequate involves a degree of loose thinking that should be laid bare. First, it assumes that the only person benefited is the spinner or weaver: this is not so. The persons benefited in order are: cotton grower, ginner, carder, spinner, weaver, washerman and salesman. Next it assumes that the return is by itself negligible and is for whole-time work; this is not so, for what is aimed at is the

creation—or rather restoration—of a by-industry to the half-starved and part-employed villager to whom the return cannot be a negligible figure. Again, it assumes that such a cottage industry is impossible in the face of competition of machine-made goods and is uneconomical. This is falsified by the very success that has so far attended the Khadi movement, *worked in the face of tremendous difficulties* and by the existence of weaving as a cottage industry even to this date even in advanced Western countries where home-spuns are highly valued and paid for. Then, again, the argument assumes that villagers should sacrifice their economic independence to serving in mills. This assumption is none too good. While the idea of well regulated factories worked on satisfactory lines and the growth of cities should be encouraged, there is no denying the fact *that the emptying of villages into cities is an* evil which cannot be contemplated with complacency. Since this critic himself thinks of bettering cottage industries in his brochure, he may be taken to realize the self-contradictory character of his argument. The fact is that while sapient criticism of the Khadi policy is easy, it is difficult to envisage correctly what it means to the unemployed in rural areas, *if worked* on the true scale and with real sympathy. Its exact potentialities would then be *better appreciated. So, at least, the work so far* achieved by the All-India Spinners' Association would seem to indicate. The other suggestion of the critic quoted above that the monotony of the Charka is against it, is easily answered. There is monotony even in machine work: in fact there is a greater deal of it. That is one of its greatest defects. The story of the little boy who devised a contrivance with the aid of his *pocket handkerchief* to get over the trying duty of a monotonous task is too well known to *need particular mention. The prominence that* is now given to the study of industrial fatigue—in connection with mass production through the aid of machinery—throws a side-light on this subject which is worth noting. There are special Boards and Institutes—the National Institute of Industrial Psychology and the Industrial Fatigue Research Board—charged with the duty of studying this subject. There *is a lot of unnecessary fatigue in industry* which is sought to be eliminated in a variety of ways. The studies conducted by these *Boards have enabled employers to visualize the* industrial worker not as a nnit-worker only, but as a *human being*. Industrial monotony—in modern industry—has come to be studied as a factor which might be a deadening influence *on production or output, because it was first* recognized that it was conceivable that it might be a deadening thing on mankind. Another point that Mahatma Gandhi's critic fails to note is that there is often confusion between minute work and monotonous work. Has the craftsman-watchmaker by any means a monotonous task? Why is the spinning wheel *yielding* "music" to *Mahatma Gandhi* and only "monotony" to Mr. Anilbaran Ray? *Here is a passage from a striking article* in the *Hibbert Journal* by a mass-producer, which ought to prove an eye-opener to Mr. Ray:—

"Monotony and drabness are the prevailing features of the factory-worker's life. Day after day he is awakened by his alarm clock or, as I often was, by the thumping on the partition wall of a friendly next door neighbour. He hurries out in the grey dawn in response to the factory hooter. Once inside, high-speed production compels him to keep all his attention fixed on his work, because if he allows his mind to wander for a moment he finds he cannot maintain the pace *demanded. Interesting work may absorb attention,* but repetition work cannot be interesting. It is only tolerable if one can think of something else. To concentrate on petty tasks means a high state of nervous tension all the time. A reaction is bound to come if the brain is not dulled. Lurid and sentimental films, melodrama, ragtime-dancing, anything which has colour, romance, sensuousness, passion, or excitement is *demanded*. The emotional side of revolutionary propaganda is taken up by many whose lives are hard and bare. They construct a mental image of a *beautiful society which eliminates all the evils of the* struggling world they know. Out of insecurity and sordidness comes a burning idealism which compensates them for all they miss in actual life. This visionary commonwealth is more in the nature of the satisfaction of an emotional need than a rational well-thought-out plan for the future. All practical proposals to bridge the gulf between the system that is, and the system they desire, are distasteful, for these would destroy their dream and so cut off their way to escape." (See J. Lee, *Industrial Administration*, 130.)

Moreover, as Munsterberg has pointed out, "the feeling of monotony depends much less upon the particular kind of work than upon the special disposition of the individual.' (*Psychology and Industrial Efficiency*, 198.) But, of course, as Professor Pigou has pointed out, the *ethical effect* of monotony must be distinguished from the unpleasantness of it. Marshall maintains that monotony of life is the important thing, and argues that variety of life is compatible with monotony of occupation. (*Principles of Economics*, 263.) Much certainly would depend, in a case of this sort, on the length of the working day. Smart held that "the work of the majority is not only toilsome, monotonous, undeveloping, but takes up the better part of the day and leaves little energy for other pursuits." (*Second Thoughts of an Economist* 107.) Monotony too may be dearly

exchanged. Thus the unity of interest and occupation which characterize a weaver family may be lost for ever when it is led from its cottage to the factory. The weaver and his wife may earn more, but they lose a great deal at the same time—and that great deal cannot be described in terms of money. The fact is, as Pigou has pointed out, non-economic welfare is liable to be modified by the manner in which income is earned. The surroundings of work react upon the quality of life. To the village weaver, "the collaboration of the family members not only economises expenses, but sweetens labour. Culture and refinement come easily to the artisan through the work amidst his kith and kin." His transfer to the factory may increase his income and the output of the factory but its effects on him would be deplorable. While on the economic side he might be bettered, on the non-economic side, the effects may be the reverse of good. Similarly consolidation of holdings in this country might result in increased efficiency of output, but it would kill the independence of the ryot just as the agricultural revolution in England not only increased efficiency in output but with its enclosures and large-scale production brought about a social change which ended in the destruction of the old yeomen class. Granted, for the sake of argument, that there is monotony in the Charka, what have its critics to say to the reduction by machinery of man to a mere tool of production? The human touch between employer and employed is a thing of the past where mass production through machinery is in vogue and a spirit of hostility even has been engendered between them through its means, which Conciliation Boards, Whitley Councils and Co-partnership schemes have yet to surmount to any appreciable extent. Man instead of being *the* unit of production has been reduced to *an* unit in production. Labour unrest has been due as much to dissatisfaction with rates of wages as with the general *status* of wage-labour—the feeling, as Pigou well puts it, that "the industrial system as it is to-day, deprives the work-people of the liberties and responsibilities proper to freemen, and renders them more to be used or dispensed with at the convenience of others: the sense, in short, as Mazzini put it long ago, that capital is the *despot* of labour. Monotony may be bad, but this is worse.

Though mass production on the organized scale in factories has helped to save much of the brutish heavy work, Mr. Ray must make his election between the so-called monotony of the spinning wheel and the drabness of the factory. The Factory, as depicted above, is the father of Revolution and there is no doubt that the general strike which England experienced not long ago, has to be explained on the basis set out above: it is the result of the reaction produced by the monotonous work of the factory. Doubtless too much of the trouble in Bombay during the past year or two should be traced to the same reaction. It may be easy to decry the spinning wheel but it is not so easy to assess its true value. According to Mr. Ray, the remedy for India's ills should be sought elsewhere.

"*The real solution for the poverty of India lies*," he says, "not in converting our teeming populations into spinners and weavers, or in foisting fifth century methods on a land sorely affected with the evils of backwardness and poverty. The effective remedy is to be found in the reduction of expenditure on the army and the civil administration, a national mercantile maritime; improved railway transport; the inauguration of other less costly means of transport, such as canals and waterways for the development of internal trade; application of science and technical skill to agriculture; extension of large-scale production through machinery: organization of suitable cottage industries *with modern devices and methods*: facilities in banking and insurance; co-operative organizations for sale and purchase and other purposes; technical education; modification of the whole university system; improved sanitation; a good thumping tariff to protect Indian industries."

And he might have added a complete change in the *system* of Government so that all these much desired improvements may be made available. And Mahatma Gandhi would not demur to it, any more than he would to the rest of Mr. Ray's comprehensive programme. As regards mass production through machinery, Mahatma Gandhi has been a much misunderstood person. He is not so much against it as against the evils connected with it. He would vote, perhaps, for the most stringent Factory Act; he would certainly insist on the worker being treated first, last and ever, as a human being; and he would stipulate that the conditions of labour should be bettered on a scale of which his critics have probably little or no idea. It is to be feared that his championing of the spinning wheel has made people practically incapable of thinking for themselves. Mr. Ray pleads for cottage industries "with modern devices and methods". Why, if spinning and weaving are to go? He likewise talks of "monotony" in spinning and weaving without a thought for the fact that the more monotonous and mechanical a task becomes, the greater the possibility that a further development of machinery will transfer that task itself to the machine. Improved Charkas are daily being put on the market, and the best of

these will doubtless survive. Mr. Ray has yet to learn that the time is not yet ripe to abolish all labour. "We can never escape," as Dr. Maciver writes in his well-known work *Community*, "the whole of this unloved burden of work which brings no joy to the worker, but if social wisdom and mechanical ingenuity increase together, we may well look forward to the progressive deliverance of an ever greater majority." What applies in this regard to hand machines applies to power-worked machinery and *vice versa*.

There is nothing wrong, it would thus seem, in the idea of the Spinning Wheel being resuscitated as the means of a useful cottage industry. What is required is *the will* to make it a success. Such success is possible if the National Will is applied to it. *Why has the spinning wheel* survived in Wales and in several parts of *England? Evidently it has a purpose to fulfil* and a function to perform in rural economy. *Not only that. Here is what a believer in it* writes :—

"I have thought what a wonderful and artistic future lay in that wooden system before me. There is enough scope to exercise men's ingenuity in devising *new patterns of the wheel and new patterns on the* fabric made by the wheel. The domestic spinning wheel is as old as civilization. And even to-day the very best, finest fabrics are home-spun, because you can put your brain and your feeling into the stuff. You still see the gossamer muslins of an older type placed in glass cases against a black background to them in some of the famous museums of Furye. No machine makes that. They are dreams in cotton industry unhappily dead."

The man who wants to destroy the simple wheel which can produce that verily destroys Art itself. Again, the same writer says :—

"Now this creative delight is an essential elemental constitution of every individual and is just one of the most distinguishing features which absolutely separate him from the animal. I have particularly emphasized on the Charka because it has far more far-reaching interest; it acts in the double capacity of revival of one of our *most useful and honoured institutions and as a means* of economical conservation. I perceive that in the thickest whirl of this civilization, there are several people in Europe who still feel the refined economical impulse to isolate art from mechanics and to feel closer between the person and the immediate product without going through a mechanical proxy."

But there is something more than that. The writer adds :—

"There are a hundred and one things that our *young men might turn to to exercise this* creative impulse, but I believe, myself, that the spinning wheel is the symbol of this instinct in man. Mankind is immediately concerned with food first and clothing next. If everybody could produce in his own garden much of the wheat he *requires for his food*, I should think most people would have a better appetite for eating. And if each individual would make his own second imminent problem of our lives, but would also create a real taste for dressing. In the same way, you could turn your ingenuity with real profit and pleasure *by exercising your creative instincts* in the production of those other sundries of life which, while greatly stimulating your powers of originality, will also tend to establish the sympathetic bond that knits you to your own native land."

What has Mr. Ray to say to that? The fact of the matter is that where the government and the people of a country are one, there the conditions necessary for the success of an idea are easily created. Take, for instance, the United States of America, to which we have referred above. From a debtor to a creditor country; from a producer of raw material to a manufacturer of goods; from a seeker after population to fill its open spaces to one openly interdicting immigration into them! How has this come about? Mr. Julius H. Barnes, the great American banker, attirbutes American prosperity less to the natural resources and relatively small population of the country than to the general adoption of methods which have revolutionized conditions in it. He instances the fact that ore to reach the Pittsburgh furnaces travels 100 miles on rails, 1,000 miles on the Great Lakes, *and then another 150 miles by rail.* The products are sent 400 miles by rail to the *Atlantic seaboard for export.* It is *obvious, as* our London Correspondent wrote in our last *issue, that such natural handicaps can have* been overcome only by inventive genius and *organization.* Any *comparison* with India on a point like this is wholly impossible. The identity of the interests of the rulers and the ruled is yet a *sine qua non* here and that is as much Economics as Politics. And Mahatma Gandhi seems correct when he refuses to distinguish between them in practice.

From Imperial College of Tropical Agriculture, London.

"We have been endeavouring for some months past to get into touch with the Publishers of the *Mysore Economic Journal*..........The Librarian of this College is anxious to procure copies of the *Mysore Economic Journal* for the whole of 1929........Would you be so kind as to ask the Publishers of the *Journal* to despatch the whole of the issues for the current year...." (Letter No. 5719, dated 17th September 1929 to the Director of Agriculture in Mysore, Bangalore.)

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Rural Reconstruction in Mysore.

By The Editor.

The question of Rural Reconstruction is everywhere in the air. Here are a few notes, which might be easily expanded into a long article but which limitations of space demand they should be left as they are for the present.

THE VILLAGE THEN AND NOW.

(*a*) The village was in olden days an economically *self-sufficient unit*; now, under a highly centralized administration, its economic well-being has suffered.

(*b*) In ancient times, village administration was in local hands and thrived: now everything has to be done for it through an outside agency.

(*Barabalvti* is a relic of a still older village system known to us from inscriptions.)

(*c*) In olden days, local patriotism was fostered by the local administration as it had a vital connection with local life; now it is different as the modern system of administration has snapped local communal life.

WHAT HAS BEEN DONE BY GOVERNMENT.

Government has done a great deal to restore, if not revive, the village and its ancient glory. Administrative requirements have necessitated such steps. Also a conscious policy of development has been adopted by Government through the Departments and the Economic Conference. Laws have been passed to revive Village Panchayats, Co-operative Regulation, etc.

THE PRESENT CONDITION OF VILLAGES.

India lives in its villages and life in it must be at least something tolerable. It is something very different. Mysore State consists of 16,568 villages and 105 towns including cities. "Town" means a Municipality of any size constituted as such by Government. Of every 1,000 persons in the State, 144 reside in towns and nearly half the total urban population resides in towns with a population of 20,000 and over. The average population for a town in this State is 8,216. In England and Wales, 78 per cent of the population live in towns and cities; in Scotland 75.4 per cent of the total population is urban; in Madras, 12.4 per cent; in Bombay (including States), 21.1 per cent; in Baroda, 20.7 per cent; and in Mysore, 14 per cent live in towns. That shows what the village should mean to us. *The village is the problem.*

THE REMEDY.

The remedy is to restore the village to its former position. That is, to restore to it its *self-sufficient economic life*. This means nothing spectacular, though that is not to be despised. The position of the ryot should be bettered in such a way as to make his *income meet his actual normal demands*. His standard of life is pitiably low but even that he cannot maintain without running into debt. We have to fit him up in such a way that he can earn more, live better, contract no debts and, if possible, enjoy life to some extent. In one word, his economic position should be bettered in such a way that he might be enabled to stand erect and grow to his natural height. How to attain this objective? It is through *reconstructing life in the village. And the key to* this is co-operation.

CO-OPERATION AND ITS PLACE IN RURAL RECONSTRUCTION.

Co-operation is not a department; is not affording facilities for borrowing; or collection of debts that cannot be paid or are evaded by the borrower: or even Registrar's Courts and decrees. It is a means to an end. It is a department whose one object is to raise the economic efficiency of the villager. That is, to fit him up in such a way as to make him earn more and live a life of happiness and usefulness. If this can be made a realizable objective, co-operation will have done its real duty. Co-operation, if rightly worked, should help in becoming the "uplift department" of the State. It should effectively aid in:—

(1) Reviving Rural Life.

(2) Relieving indebtedness.

(3) Restoring land to the landless.

(4) Helping the marketing of rural production, in storing it, etc.

(5) Making possible the spread of education on a larger scale and at a faster rate.

(6) Helping to improve sanitation and public health.

(7) Rendering medical aid possible in every village.

And so on and so forth. *All this, however,* is possible only if an earnest band of workers, fired with the missionary zeal, are created and sent into villages and made to settle down for work. The local Co-operative Propagandist Institute should be authorized to take up this work. A scheme may be evolved for this

purpose which briefly is as follows:—The Institute should select promising educated young men, earnest men of character, with zeal for the work they are intended for. They should be trained by batches of ten or more for *rural service*. *They should be under training* from 6 to 9 months. Being educated and selected men, this period ought to suffice. *They should be given a course in the elements* of their future duties: the village and its life: all about a village—its peculiarities and its needs; its beauties and its drawbacks: Revenue law and rules (simplified): Revenue Accounts (simplified): Co-operative work (Rural); Agriculture and its importance: Panchayat work: Tanks, Communications. Public Health and Sanitation; village forests; medical aid; Education and its usefulness for villagers: cottage industries, especially spinning and *weaving, etc. A suitable text-book* can be drawn up and made available. After the course of 6 or 9 months, they should be posted *to suitably chosen centres. They should form* a corps of intelligent guides to the villagers. They should be active and nimble: sympathetic and ready to help; and do everything to enter into the spirit of the local life. They should also render all the superior service required in their area as regards work in the several departments including Co-operative Societies, Village Panchayats, etc. They may be styled Rural Service Superintendents. While under training, they can be paid a stipend *and when drafted for work, they should be* allowed a living wage, say Rs. 50 to Rs. 75.

What may be achieved.

What may be achieved by this service may be mentioned very briefly, as amply demonstrated in the Punjab. In Denmark, under a similar stimulus, education has improved. In India such experiments have helped in the opening of schools, dispensaries (Ayurvedic and others), ryots' associations; suppressing litigation: opening of arbitration courts: mitigating the drink evil: repairs and restoration of wells and tanks by co-operative effort. Also schools have been started; libraries have come into *existence: public libraries built: communi*cations opened out; and Co-operative Societies have realized their responsibilities and wiped out not only their arrears but also increased their transactions in the primary societies. Here is work enough for the intelligent Rural Service Missionary trained by the Institute. Both Government and the non-official public should prove effective helpers in this work. Economic surveys of a truer type might follow such labours: surveys which should lead to *constructive programmes*. These would enable the villagers to contribute their labour which, in its turn, would help to improve their earning *power and thereby improve their well-being* as well. And this not on a basis of outside gift but as the result of the new-born sense of self-help and mutual endeavour. Co-operation is thus likely to prove something more than a panacea. It would help to restrict Government aid to its true domain; to affording facilities requisite to live a higher life and no more. The villagers would be enabled to do the rest: to utilize the Departments increasingly for their benefit (Revenue, Agriculture, Forest, Education, *Commerce and Industries, Co-operation,* P. W. D., etc). Self-education would go on and there would be a reflection of it in increased revenue to Government and a well contented and happy peasantry. What more would be desired or deemed desirable in a country like ours, so well blessed by Nature!

A type of double pavement has been put into use on several important streets in Paris, according to a report by the United States Trade Commissioner in that city. It consists of a foundation layer of asphalt and a surface layer composed of a mixture of bitumen, rock asphalt and porphyry gravel, to take the place of asphalt, which is dangerously slippery in wet weather. This surface is slightly corrugated and both layers are applied hot.

Compressed asphalt is being used for new *street surfacing in places where vehicular* traffic is light or cannot attain high speed. The use of cement concrete is being extended in streets where the traffic is very heavy, and special bricks, in which sandy matter has been mixed to increase their resistance, are being tried. A test section, containing different samples of pavement laid at the expense of the contractors, has been established at the end of the Austerlitz bridge where traffic is heavy.

The statistics of industrial disputes in British India, for the first quarter of the year 1929, published by the Government of India, Department of Industries and Labour, show *that there were 45 disputes in progress during* the quarter. The total number of workpeople involved in these disputes was 77,385 and the aggregate time loss amounted to 820,215 working days.

Ten Years of Airways.

By Harry Harper,

Author of "Twenty-Five Years of Flying."

Plans, official and private, are in hand for what is intended shall be a fitting celebration of an important landmark in British aerial history. It was in August, 1919 that this country achieved the distinction of inaugurating between London and Paris, the world's first daily aeroplane service, and during the coming August, at the London air station, it is intended that the tenth anniversary of this aerial milestone shall be marked by special functions at which the progress of civil aviation is demonstrated on a conclusive scale.

The other evening at our Croydon air-port, which is now the most perfectly-equipped of its kind in the world, I was discussing with officials the probable form to be taken by these proposed rejoicings. A parade of commercial aircraft will, it is hoped, be one of the features showing at a glance how, in size, safety and comfort, the passenger-plane of 1929 eclipses that of 1919. No contrast could be more striking. Just as I was arriving at Croydon, a pilot was bringing in from Coventry by air, the latest "air express" which has been built for Imperial Airways by Armstrong Whitworth Aircraft Ltd. Years of practical experience, in operating aeroplanes commercially, are embodied in this fine machine of which others of the same type will soon be in regular service not only between London and the continent, but also on sections of the trunk air-line from England to India. In the spacious carpeted saloon of this big new "Argosy" luxurious armchair seats are provided for 20 passengers. At the rear of the cabin is a compact, fully-equipped buffet, to be presided over by a uniformed steward who, while this 9-ton aeroplane is travelling through the air at 100 miles an hour, will serve aerial voyagers with any refreshments they desire. Three big engines, each a completely separate unit, and each fitted with a special silencer, comprise the power-plant of this newest express of the air, and the risk of a forced landing, through any mechanical defect, is practically eliminated. Wide out-look windows give the occupants of the saloon a clear panorama of air, sea and land. The machine, which is fitted with anti-stalling wing-slots, is a triumph of aerial speed, safety and comfort.

Sardines in a Tin.

While I was examining it I had vivid memories of one of the first British passenger-planes, a converted bomber, in which I went out to Hendon to look over in the spring of 1919. Two passengers only, instead of 20, that pioneer machine carried and they sat close together in a tiny little cabin just behind the big unsilenced motor. After they had managed with difficulty to insert themselves in the cramped space provided, a sort of metal lid was shut down and fastened over their heads.

"They look just like sardines in a tin" was, I remember, the apt comment of one spectator after he had peered in at them through a little side-window.

When I think of one of those small, noisy, uncomfortable machines and compare it with the luxurious air expresses of the present day, I am reminded of the progress of another vital means of transport— that of our railways. In the infancy of rail transport people went jolting along in open trucks with cinders from the puffing engine blowing back into their faces. Contrast one of those primitive, early trains with a modern Pullman-car, and, at the same time, compare in your mind the crude 2-passenger civil 'plane of 1919 with the 20-passenger flying Pullman of 1929. Truly, in such a comparatively brief space as 10 years, the airway has achieved amazing progress and it is only fitting that this should be celebrated appropriately.

The Aero Exhibition.

Not only what has already been accomplished aerially, since flying transport began, but also what airway engineers are now preparing for as the next big phase is to have adequate demonstration. At the Aero Exhibition to be held at Olympia, London, in July, it is hoped to stage for the inspection of the public, complete in every detail, the hulls of vast new passenger-planes and flying-boats which, in size and power, will far eclipse anything attempted hitherto. In this connection it is a significant fact that Imperial Airways, our national company, after a careful estimate of at its traffic requirements will be in the

immediate future, has just placed orders for a series of super-giant 40-passenger aeroplanes, and that for the new Empire aerial route between England and South Africa, which should be in operation next year, marine aircraft are to be employed developing thousands of horse-power and representing an immense stride forward in flying-boat design.

SAFETY FIRST!

"When we bagan 100 miles-an-hour aerial transport in 1919 we had three things to prove," pointed out an air-port technician with whom I discussed the main trends of airway progress. These points were :—

1. That civil aeroplanes could be made safe.
2. That they could fly dependably to a scheduled time-table.
3. That they could be made to pay.

To-day, after just on 10 years, what is our position? Well, take the question of safety. In the past four years British aeroplanes have carried 100,000 people to and fro across the Channel without injury to a single one of them. And that surely is a sufficient answer to the question: Can airways be made safe? It is perfectly obvious that they can. Now as to reliability. In this regard the latest figures which I have before me show that even on European air routes, where bad visibility has so often to be encountered, British aeroplanes are now maintaining an all-the-year-round dependability of well over 90 per cent. while on such a section of the Empire airway as that between Cairo and Basra, where mist and fog have not to be reckoned with, the reliability figure stands consistently at 100 per cent. So you see that in dependability, as well as in regard to safety, the airway has succeeded already in confounding all its critics. Aerial transport now functions day in and day out, with a reliability amply sufficient for all business needs. In respect of the third essential question, that of making airways pay, the position we have now reached, after 10 years of experimental operation, is highly encouraging without being entirely conclusive. In certain parts of the world, where conditions are specially favourable, commercial aeroplanes, seaplanes and flying-boats are already earning dividends for the companies operating them. In other territories, where pioneer work has been more arduous and also more costly, State assistance in various forms has still to be relied upon. But it is now perfectly clear, in view of recent increases in traffic, and of reductions in working costs, that the phase during which aerial transport needs artificial aid is a purely temporary one, and that much sooner than some people appear to think we shall find that we have established throughout the British Empire an aerial transport system which not merely reduces journeys of weeks to days, but which does so upon a basis which is businesslike and self-supporting. And even to see such a goal in sight after only 10 years of airway working, is a sufficient indication in itself of the progress we have made.

Bhadravati Iron Works, 1928–1929.

By J. Hammond, M.A.

The report on the operation of the Bhadravati Iron Works during the year 1928-29, issued by the Board of Management for general information, together with the relative Trading Account and Profit and Loss Statement and the Balance Sheet as on 30th June 1929, is a document of topical interest. So much has been written about and against it in certain not very friendly circles that it is necessary to draw pointed public attention to it. During the year under review, the Blast Furnace was enlarged to a rated capacity of 80 tons and blown in for operation on the 10th September 1928. The plant was thus in operation for less than 10 months during the year and the output amounted to 18,455 tons or a daily average of 63 tons against an average of 55 tons, the high- The additional two batteries of retorts and the fourth stove were put into service later in the year and the yield of bye-products continued to be satisfactory.

The increased output of pig iron helped by the high prices obtaining for acetate of lime, the principal bye-product tended to reduce considerably the unit cost of pig iron below the level attained in previous years. The operations of the Pipe Foundry showed considerable improvement in the latter half of the year and there was an appreciable reduction in the cost of manufacture. It is a matter for keen regret that there was no improvement in the market for pig iron or pipes. The competition of the Northern Iron Combine has reduced the selling rate of pig iron in Southern India even below

with considerable difficulty that the Works were able to secure this year orders for pig iron from the Railway workshops situated within favourable distance of Bhadravati. There was also unluckily a general contraction in the orders for cast iron pipes in the country and competition was, therefore, very keen for the small demand. Even for pipes the ruling prices in Southern India are lower than in the North on account of the present peculiar competition. The Works have had to adjust their prices in order to secure a share of the market and as a result some improvement is visible in the tonnage sold. The sudden expansion of the artificial silk industry has led to an increased demand for Acetic Acid and Acetate of Lime and the price of the latter has risen by about 40 per cent. In these circumstances, it is a relief to note that the Tariff Board have completed their inquiry in regard to the removal of the revenue duty on pig iron and their recommendations are awaited.

Despite the adverse conditions prevailing the actual manufacturing and trading operation of the year resulted, we are glad to note, in a surplus of Rs. 1,90,907 of which Rs. 75,818 was utilized to wipe off a portion of the amount by which the value of the opening stock of the year was reduced so as to accord with present market conditions. The balance is held in suspense and will be gradually written off. The net surplus of the year, *viz.*, Rs. 1,15,089 has been carried over to the Depreciation Fund.

As regards capital works, two batteries of retorts and the erection of the fourth stove were completed, as mentioned above, during the year. The construction of the new Pipe Foundry was commenced about the close of the year and has been making rapid progress.

The Government of Mysore have, we note, been pleased to accept the recommendation of the Board supported by a firm of Commercial Accountants of Bombay and accord sanction to the writing down of the capital value of the main plant by Rs.8 6.97 lakhs. This is, from a commercial point of view, as it ought to be. The reduced block amount including new extensions carried out on the recommendation of the Board amounted to Rs. 116.18 lakhs on 30th June 1929.

The report adds that as an auxiliary to the Iron Works, a timber creosoting plant was installed at Bhadravati during the year and is being worked by the Forest Department using the creosote manufactured on the Works. It is understood the plant has earned a profit of Rs. 33,000.

We recently visited this plant and can say it is proving quite a useful addition to the Works. Inquiries showed that it started work in the middle of August and a large number of Railway sleepers, *balgi* poles, scantlings and other timber, both Government and private, are being treated in it.

The Works have a future before them and under the new head appointed to it, it is to be hoped that its efficiency will be kept unimpaired and with better conditions turned into a Mysore National asset of great potentialities. It is also to be trusted that carping criticism of the Works and those connected with it will also now cease for the good as much of the Works as of the State.

Report on Lloyd Barrage and Canals.

By "Scrutator".

On 1st May 1929, the Governor in Council, Bombay, invited Sir M. Visvesvaraya, K.C.I.E., M.I.C.E., and Nawab Ali Nawaz Jung Bahadur, F.C.H., to inspect and report on the engineering aspects, both technical and administrative, of the construction of the Lloyd Barrage and Canals in Sind. Their report was submitted to Government on 18th September 1929. The recommendations contained in the report are now under the consideration of Government but, in the meantime, the Governor in Council records their appreciation of the full and careful examination of the questions referred to Sir M. Visvesvaraya and Nawab Ali Nawaz Jung Bahadur. The Report though dealing with a highly technical subject, is for the magnitude of the undertaking it relates to, does not occupy more than 50 pages in print and is written in a style at once perspicacious and readable. Sir M. Visvesvaraya and Nawab Ali Nawaz Jung Bahadur rightly characterize the scheme as one of unusual magnitude and responsibility. This single scheme when completed is expected to add about 3½ million acres, or over 15 per cent to the existing irrigation in British India under all Government irrigation works for which capital accounts are kept. Sind is an undeveloped tract with an unfavourable climate and a working population the majority of which is illiterate and

ease-loving. In no other part of the world is to be found a work constructed under conditions closely resembling this to serve as a guide. The river constantly shifts its course, its behaviour is uncertain and treacherous and its hydrography is not correctly known. Critics have foreshadowed danger from avulsion, shoaling, silting of canals, water-logging and the like. Last year there was a sudden unusual rise in the river level which caused interruption to progress of works in the river bed. In the current year we have witnessed abnormal rainfall in parts of Sind which flooded low areas, this was followed by a panic on the bursting of the Shyok Dam and, within the past few days, heavy rain in the Punjab has led to a disastrous inundation in many parts of Sind, the full effects of which are not yet correctly known. With such experiences before us, who can say that there are no elements of risk in the Barrage Scheme?

The Report says:—"But Sind needed an irrigation project which could give an assured supply for its cultivation, and the new project is expected to increase the irrigated area to twice its present size. The production will be probably quadrupled. It is not to be expected that a great complicated scheme of this magnitude will be perfect in all its details. Natural conditions will not lend themselves favourably in every direction and no big undertaking of this size can be carried out without risks and without interfering with some local interest or other. Should unforeseen risks or difficulties arise in future the resources of engineering should be able to cope with them. We have dwelt on some of the defects at length but taking the scheme as a whole we can think of no better or clearer alternative. The scheme is expected to make an appreciable addition to the production and food supply in this part of India and it will bring prosperity to Sind.

"The chief characteristic of the undertaking is its boldness of conception and unusual size. The Government of India as well as the Secretary of State have complimented the Bombay Government on the perseverance and breadth of vision displayed by them in putting it forward. It also reflects great credit on the individual Engineers and Administrators who were associated with its preparation, or advanced it to the stage of sanction. The works are being executed under the supervision of Engineers, of whom the controlling staff belong to the permanent service of the Bombay Public Works Department which is a guarantee that the execution of the works is proceeding have nothing but praise for the services these officers are rendering and the whole of this large scheme is controlled and administered with admirable devotion and energy by the present Chief Engineer, Mr. C. S. C. Harrison, C.I.E.

"We have recorded our views on the more important features and needs of the project, including most points which have been the subject of controversy. We have given prominence to certain fundamental questions that await early settlement. Our main conclusions may be summarized as follows:—

(i) The site selected for the Barrage is a favourable one and the engineering designs of the scheme, save those to which we have taken exception, are suitable and satisfactory.

(ii) Difficulties may arise from shoaling in the river bed, silting of canals or water-logging over large tracts of country but such difficulties should be kept under scientific observation and timely remedies applied.

(iii) Judging from the difficult work already completed in the river bed, the successful construction of the Barrage seems assured. The construction of the other parts of the scheme is also proceeding satisfactorily.

(iv) The details of the scheme were not as fully worked out or checked as they might have been before construction was actually commenced. Better preliminary preparation might have reduced the costs and proved an advantage in other ways.

(v) Machinery and plant might have cost less had details been gone into more fully with the assistance of a firm of Consulting Engineers or a Committee of Mechanical Engineers accustomed to handle large workshops or factories.

(vi) Having regard to the flatness of the country and the insufficiency of free outlets for water poured on to it, the intensity of irrigation assumed seems too high. The acreage rate of working expenses assumed will be found to be too low at least in the initial stages of operation.

(vii) The capacity of the canals might have been slightly larger to provide for sudden abnormal demands that arise in the kharif season.

(viii) The scheme was needed to enable Sind to obtain its legitimate share of the Indus waters along with the Punjab and for the more economical use and distribution of the available supply between the two Provinces.

(ix) The value of agricultural production in the ultimate stage of the scheme may amount to Rs. 30 or 35 crores annually as against about Rs. 8 crores obtained at present from irrigation

(x) The scheme is a potential source of great prosperity for Sind and the people of the Province as a whole welcome it."

PRINCIPAL RECOMMENDATIONS.

The following is a summary of the suggestions made for ensuring the future uninterrupted progress of the scheme and its success as a productive undertaking :—

(i) The Chief Engineer has a programme according to which the Barrage and the main canals will be completed and the greater part of the project brought into operation by 1932. He may be requested to furnish half-yearly reports to show how the expenditure is shaping as compared with the estimates to make sure that the financial programme is rigidly adhered to. Unless special circumstances intervene, there should be as few changes as possible till 1932 in the personnel of the Engineering staff of the higher grades responsible for the programme.

(ii) The work should be completed within the revised estimate of Rs. 20.04 crores or including interest charges Rs. 25.25 crores by 1934-35. A special effort should be made to complete all working estimates and obtain or record sanction to them by 31st March 1930.

(iii) Excesses over estimates, if any, should be met by effecting corresponding savings, by the omission or postponement of some of the non-essential works required for the ultimate stage.

(iv) As the scheme is not expected to earn enough to pay the full interest charges on borrowed capital for 10 years after completion, or for nearly 20 years from commencement of construction, the Government of India should be approached to take over the whole or a substantial share of the debt and with it also a reasonable share of the future revenues from the scheme, the principal reason being that the scheme is too big a financial proposition for the Presidency to handle with its slender resources till the work begins to pay. If this is not done and if the land sales fail to bring in substantial proceeds, the charges on the revenues of the Bombay Presidency may prove a heavy burden and a source of continued embarrassment to the Bombay Government for a long term of years.

(v) The first consideration of the Irrigation Department should be to make the work productive within 10 years from date of opening so as to give early relief or assurance to the tax-payer. This is a practical step of the highest importance to give confidence to the public.

(vi) It should be possible soon to reduce the [illegible]

economies by combining the Sukkur Barrage Construction Divisions and the regular Maintenance Divisions of the Public Works Department in Sind.

(vii) Several questions connected with the preparations for the future are pending settlement and rapid decisions seem necessary. The delay, if prolonged, will adversely affect the progress and, eventually, the financial prospects of the scheme.

(viii) River discharge observations should be taken and surveys made to watch the bed levels and changes in the river course according to the latest needs of the Barrage project.

(ix) The effect of the Barrage scheme on the gauges at Sukkur and Kotri and on the full supply levels of the Fuleli and Karachi Canals should be observed regularly for at least 5 years after the scheme comes into operation in order to ascertain the extent to which their supplies will be permanently affected and to provide the remedies they call for.

(x) Estimates may be prepared after survey for the proposal to feed the Fuleli Canal and, if possible, also other lower left bank canals through the Nara River.

(xi) The effect of Barrage irrigation on the sub-soil water levels of the irrigated tracts and the tendency to water-logging should be closely watched. Detailed projects for the necessary drainage cuts and channels should be kept ready so as to be able to put the necessary works in hand the moment circumstances necessitate their execution.

(xii) A Bureau of Research should be established, and scientific investigation and research in irrigation and agriculture should be commenced and vigorously pursued. This work will be found to be invaluable for the financial success of the scheme.

(xiii) The Bombay Irrigation Act and the Rules framed under it require modification to suit the future needs of the Barrage Scheme. The necessary amendments may be carried out by legislation as early as possible.

(xiv) A concise account of the scheme should be prepared giving a summary and a complete description of the works and estimates as being carried out. A list should be appended to it of the principal publications and reports issued by Government. Such a publication is badly needed by the Engineers themselves and their staff. It will be greatly appreciated by the members of the Legislative Council and the general public. We ourselves felt the need of one.

(xv) The Executive Engineers and lower officers should have opportunities of discussing

and becoming acquainted with the entire scheme. More frequent meetings and consultations among the Engineers of all grades will be helpful in spreading a knowledge of the scope and objects of the scheme among them so as to ensure their putting forth initiative and giving closer co-operation in future.

(*xvi*) The policies followed by Government in the solution of the questions pending settlement should be widely made known so that the cultivators, particularly the poorer classes among them, may have all the facilities needed to secure plots of land for themselves, to improve them and practise irrigation in a profitable manner. Suitable propaganda to make its policies, objects and future prospects widely known will smoothen the path of the Scheme.

(*xvii*) As this is a quasi-commercial undertaking the issue of a *Barrage Bulletin* once a month similar to those published by Hydro-Electric and other productive schemes in other parts of the world is also recommended. The undertaking is unique and sufficiently big and important to justify the issue of such a publication.

Indigenous Banking in India.

By The Editor.*

Mr. Jain has produced a well-conceived and well-executed work on a topic of pressing interest to this country on which there is little authentic in the shape of literature. It, therefore, admirably *fills a lacuna* or as Dr. Gilbert Slater in a short but appreciative introduction, puts it, bridges "a notable gap in Indian Economic Literature". Mr. Jain, who himself belongs to an indigenous banking family of Upper India, has thus rendered a double service, one towards his country and another towards his community, by working at this subject and producing a work of first-rate importance. He has gone to his work well equipped and has spared no pains to seek all available information from all sources open to him in India or in England. His volume will, therefore, stand the test of time and be long the leading authority on the particular phase of banking to which it is exclusively devoted.

Mr. Jain's book is both scholarly and topical; and for this reason it is likely to give a lead to the enquiry now on hand in regard to improving general banking facilities in India. Its immediate interest is thus great. This, however, does not mean that its value otherwise is less. We only stress one aspect of its utility at the present moment.

The book consists of eight chapters of which the first treats of the early history of indigenous banking; the second with its structure and functions; the third with its methods; the fourth with interest charges; the fifth with the economic position of borrowers: the sixth with the relations of indigenous banks with joint-stock banks; the seventh with the defects of indigenous banks; and the eighth with the future outlook of indigenous banking. In writing of the early history of banking Mr. Jain has missed much valuable information contained in South Indian inscriptions, several volumes of which have been edited and published by Dr. Hultzsch and Messrs. Venkayya and Krishna Sastri. Apart from literary works, we have a vast amount of literature on indigenous banking—including *interest rates charged, temple-treasuries and* how they operated as banks, etc.—embedded in ancient inscriptions. The period from about 7th century A.D. to 17th century A.D. can be covered by these inscriptions ranging over many dynasties and periods. That, however, is work enough for two or three more Jains. So, no blame attaches to Mr. Jain, our present author, for not tackling this vast unlocked literature which is mostly in Tamil, Kannada, or Sanskrit. We only suggest there is a great deal more to do—and to say as well—before we reach the 17th century A.D. with which Mr. Jain starts, in earnest, his essay on the "Early History of Indigenous Banking". At the end of this chapter Mr. Jain enquires what was the effect of European banking institutions on the indigenous system since the consolidation of British rule. His answer is, in the main, quite correct. Each functioned in his own domain; the one in the Presidency towns and the other in the rural areas. The indigenous banker replenished his capital from the Presidency banks and finally from the Imperial Bank. But the two neither coalesced nor co-ordinated their activities. This has been unfortunate, for as

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work, it is difficult to reach the village where lives rural India.

In chapters II and III, the structure and functions of indigenous banks and their methods of work are considered at length and they afford a glimpse of the manner in which banking has been carried in this country from time immemorial. These two chapters, though mainly descriptive, are well worth study, for they bring together much valuable information. Equally interesting is the next chapter on interest charges, which show why rural indebtedness can never be reduced, much less made to disappear until the inflow of money for financing agriculture is rendered possible and easy. The present conditions are such that Mr. Jain is induced to compare them with those which once prevailed in Tudor England. Customary rates have full sway and usury is general. Why this usury prevails and what makes it possible are considered in the next chapter in which the economic position of the borrowers is set out in categorical fashion. We need not follow the author in greater detail here. It ought to suffice if we stated that he finds that the bulk of the private debt in India is unproductive. He estimates the agricultural debt at Rs. 600 crores. He works out that the aggregate indebtedness—both agricultural and non-agricultural—is about Rs. 852 crores, which yields an average debt of Rs. 27 per head of the total population. He hazards the remark that the total indebtedness to money-lenders in India amounts to between Rs. 800 and Rs. 900 crores or from £600 to £650 millions. This figure seems to be going up rather than going down. Upon this agricultural debt of Rs. 600 crores, the money-lenders' annual charge is estimated by Mr. Jain at Rs. 120 crores and on the total debt of Rs. 850 crores, he works out the annual charge at Rs. 170 crores. This means, as he puts it, that "the annual toll levied on the Indian cultivators is a little over three times the land revenue and the toll on the whole population almost equal to the total revenue and well over four times the land revenue."

Mr. Jain, in the succeeding chapter, touches on the connection of indigenous banks with the Joint-Stock Banks. Down to 1860, there was hardly any connection between them, though there is evidence to believe that the Indian bankers took such advantage of European banks as they could, especially in effecting remittances to Calcutta. The principle of joint liability was first applied to the joint stock banks in 1860. The outbreak of civil war in America in 1862 led to cotton speculation in Bombay and it involved, between 1862-1865, the fate of 25 banks, 39 financial associations and 7 land reclamation schemes and other miscellaneous companies. The next 43 years marked no progress. Though the number of banks rose from 2 in 1870 to 9 in 1905, the total capital and reserve of all the nine joint-stock banks in existence in 1905 was less than Rs. 2 crores and their total deposits less than Rs. 12 crores. This quiescence has been rightly set down by Mr. Jain as the effect of the Bombay speculation of 1862-1865. He also finds a cause in the silver standard that prevailed in India at the time and the fluctuations in the exchange rate which resulted from it. Between 1906 and 1913, under the influence of the Swadeshi movement, the number of joint-stock banks (with a capital and a reserve of over Rs. 5 lakhs) increased from 10 (in 1906) to 18 (in 1913) leaving out of account the smaller ranks that came into being during this period. For eight years, the progress was phenomenal. Of the 98 banks, which were liquidated between 1913-1919, 58 had had their origin during this period (1906-13). It should, however, be noted that most of the more important banks, now operating, came into existence during these self-same eight years. The crash involved a capital of Rs. 178 lakhs. The Punjab, the U. P. and Bombay suffered the heaviest mortality, having lost 64, 39 and 28 institutions respectively. This was so, because they are the chief trade marts of the country.

In 1926, there were 73 joint-stock banks, of which 27 had a paid-up capital and reserve of Rs. 5 lakhs and over and 46 were smaller institutions with a capital and reserve of from Rs. 1 lakh to 5 lakhs. Head and branch offices together numbered about 600 and this for a population of 318 millions and 1,900,000 sq. miles. As Mr. Jain remarks, banking facilities are, in this country, inadequate and particularly so in the Indian States. These joint-stock banks finance only the trade and industry in the Presidency towns and large commercial centres, rural India being financed entirely by indigenous bankers. Mr. Jain has carefully explained the connection of these bankers to the joint-stock banks and the value of his book lies chiefly in making clear this connection. He suggests that indigenous bankers find themselves handicapped by the high rate of interest charged in the emergency issue (authorized under Section 20 of Act X of 1923 as amended in 1924). He points out that indigenous banking using, as it does, less of other people's money and more of one's own is not really banking but money-lending. To the consideration of the defects of such a system he devotes chapter VII of his work. As deposits are not attracted

by indigenous banks, hoarding is indulged in and the national savings of the country are not available for developing the resources of the country. The absence of a discount market and lack of organization and effective leadership are other defects of the present position. The indigenous banks neither control the joint-stock banks nor are they controlled by them. There is thus the lack of a unified credit system in the country which has an adverse effect on its agricultural and industrial fortunes. Money available in reserves is not available where it is most required and that at the time it is most required. In other words, the bank reserves are, as Mr. Jain puts it, scattered and immobile. Mr. Jain discusses the defects of this position and points out the steps which have been taken legislatively and otherwise to control this position. Under this head he considers, in a critical but constructive spirit, the *Agricultural Relief* Acts, Loans Acts, Land Alienation Acts, the Usurious Loans Act, the Punjab Regulation of Accounts Bill of 1926, the Punjab Money Lenders' Bill, and ends up with the efforts made through the Co-operative Societies in building up a rural credit system in the country. He thinks that though co-operative societies have had a beneficial effect on the country, they have not broken down the monopoly of the indigenous money-lenders. As against the total private indebtedness of Rs. 850 crores, the total working capital of co-operative societies of all kinds was but Rs. 58 crores in 1925-26. The slow progress of the co-operative idea is, he suggests, the main cause of this. There is truth in this and he thinks the causes which have retarded progress are :—illiteracy, want of a national consciousness that sets its heart on a higher standard of living and the want of a well-thought-out economic policy on the part of the State as representing the people. Mr. Jain seems correct in his analysis, and the constructive suggestions he throws out in connection with the last of these causes are of a stimulating character. He is a believer in the teaching of banking, accountancy and the like through the existing educational agency, such as Primary Schools, Middle and Secondary Schools and Colleges and Universities. He believes in village libraries and propaganda and adult schools as well. He also thinks earnest workers in the co-operative field are a crying need. He would want more Stricklands, Calverts and Darlings—spread over the whole of India. He suggests that the system of work adopted by the co-operative societies should be rendered more and more indigenous so that it might be better understood by the people. He insists that capital should be attracted to co-operative credit societies. He suggests that the Imperial Bank and the other joint-stock banks should extend their field of operations more actively in the co-operative field. These steps would, he thinks, solve the problem of rural credit. For wiping out the accumulated debts due to high compound interest, he suggests debt redemption societies (as in Bombay), and land mortgage banks (as in Europe and America). But he is not merely for improving credit facilities ; he is also desirous of improving the credit which a borrower enjoys. He thinks if the borrower—*i.e.*, the cultivator—is induced to use his money for increasing production—and not use his loans for unproductive purposes—then he would stand the chance of higher credit. The borrower needs to be educated in this respect. Cottage industries would also, he adds, add to his income. His slogan is the more he cultivates and the more he earns, the greater the cultivator's credit and less the interest he will have to pay.

So far so good. But Mr. Jain has not considered *how* the cultivator can be educated into this habit of greater Production. The crux of the whole problem of rural credit, rural indebtedness and, in short, of rural regeneration, is there. We want a Rural Civil Service of indigenous origin, fired with zeal and enthusiasm for the work that awaits it. This Service has yet to be evolved and the co-operative movement might be utilized for evolving one by organizing training schools for preparing men and women for entering it. Here is work enough for the next 25 years and that work is likely to yield results of a far-reaching character.

We now come to the eighth and final chapter of Mr. Jain's book. It deals with the future outlook of indigenous banking. He, of course, dismisses the idea of abolishing them from their field of operations, both from the point of the impracticability of the suggestion and its undesirability. They fill a rôle which no other institution has been so far able to. No fiat of the legislature can achieve this task. The only other alternative left is to improve its position and rectify the abuses to which it is open, owing to the operation of various causes. The indigenous banker should be linked more securely to the modern Banks in order that both might better flourish and subserve the common end of affording the necessary credit to rural India. This contact should, Mr. Jain thinks, be established through the Bank branches. The chain of Banks he proposes for securing this objective is that proposed by Sir Henry Strakosch : a new Reserve Bank

Joint-Stock Banks (connected with the Reserve Bank), and indigenous bankers (linked to Joint-Stock Banks by developing the functions of the endorsing *shroff*). Mr. Jain writes at length on the third of these links. He suggests (1) either the opening out of branches by the joint-stock banks throughout the country in order to establish an effective link with the indigenous bankers who supply rural credit or the better organizing of the latter so as to form an effective link between the village constituents and the joint-stock banks; (2) Cash should give way to calls in the financial and commercial operations in the country; and (3) indigenous bankers and money-lenders must change their existing practice and perform the same functions in the Indian money-market as are rendered by the money and discount broker in the London money-market. Each of these suggestions require consideration and Mr. Jain, we note, is under no delusion whatever as to the difficulties involved in achieving the consummation so devoutly to be wished for. He is, however, on the right track and we entirely endorse his conclusion that in the education, consolidation and re-organization of indigenous bankers "lie the hope of a successful banking structure for India and it is with such banking foundation that the prosperity of the country is indissolubly linked. So the problem is one of national importance having far-reaching consequences." This is entirely in consonance with the views which we have again and again expressed in these pages.

Mr. Jain sketches in the concluding pages of his book a scheme for revitalizing and re-organizing the indigenous bankers to which we should, we feel, invite attention. In theory it is simply this: in every village and small town the indigenous money-lenders and bankers should combine themselves on the joint-stock model, thus pooling their capital and resources and forming themselves into indigenous joint-stock banks. These bankers and money-lenders would become the Directors and paid employees of the bank, besides earning dividends on their shares and interest on their deposits, if any. He does not want the indigenous bankers to be squeezed out and hence his scheme to reform them and enable them to play their part in the evolution progress of the country. He thinks that the new type of remodelled indigenous banks would perform the functions—in their respective areas—of modern joint-stock banks, such as receiving deposits, making loans and discounting bills of exchange. They would, he thinks, under proper management, attract hoards as deposits, advance loans at lesser rates of interest, and help in the creation of small indigenous paper which they would readily discount. Such a thing has happened in Canada and there is no reason why we should think human nature is different here, out in India. The new type banks would, as in Canada, invest their funds in agricultural or commercial paper drawn against commodities either in process of production or in transit from producer to consumer. Mr. Jain disarms criticism by anticipating possible objections to his scheme. He thinks the new indigenous banks would kill the existing indigenous banking agencies in their entirety and thus would not affect the growth of banking in India. He also thinks that they would not affect the progress of co-operative credit societies—as there is enough elbow room for both in the country. Nor would they come into conflict with the operations of the existing Indian joint-stock banks which operate in cities and towns. On the other hand, they would help these latter to a larger extent and add to the resources of the joint-stock banks themselves and thus help to remove a reproach that now attaches to them that they are doing little or nothing for developing rural credit. As regards the Imperial Bank, this new type of indigenous banks would prove, in Mr. Jain's opinion, "an instrument of great value in making central banking policy effective by providing an open market in indigenous bills for the central bank to operate upon". The Central Bank, in its turn, as he adds, "will thus be able to function as the bankers' bank and assist the indigenous banks by giving to them confidence that their endorsed paper can be turned into ready cash in unlimited quantities." Thus the indigenous banks would at last prove the "missing link" between the modern money-market and the indigenous money-market through the development of an open discount market. That is really the goal towards which Banking has been long striving for in India though without a conscious policy of its own to achieve that end. From the practical side, Mr. Jain thinks that his scheme is a practical one and can be realized, if only the initiative is taken by non-officials. He thinks that general illiteracy is no argument against it; nor does he think that the indigenous banker or money-lender is conservative. He seems correct in these views and we also agree that his scheme provides an outlet for the employment of a large number of educated young men who are now suffering from unemployment. The only criticism we have to offer on Mr. Jain's scheme is this: he nowhere points how non-officials can take the initiative in the matter and the conditions which would render

such initiative bear fruit. We suggest that they could act through the Rural Civil Service we have suggested above. In Mysore, between the years 1914-1919, considerable good work was done in the fields of agriculture, education and industries by a special agency working through the State Economic Conference. This Conference is a combined official and non-official agency and has official Superintendents in each District of the State to do its work. They did and are doing good work in the directions indicated. What is now required is a purely non-official agency worked through trained non-official agents in each major village which should be treated as a centre for rural work. This agent should be a well-educated young man, physically fit, mentally alert, full of zeal and enthusiasm for rural work. He should be the friend, guide and philosopher, so as to speak, in the village centre, and help to work for the regeneration of the rural area assigned to him. Work of this kind is bound to bear fruit as experience has already shown both in North and South India. The training of Rural Civil Servants of this type should be in the hands of a non-official Board of workers which might advantageously be located at the headquarters of each Presidency or Provincial Co-operative Propagandistic Institute, which should have official advisers as well attached to it. These official advisers would be the heads of the development departments in close touch with Government on the one hand and the rural areas, through their non-official agents on the other.

A few minor points may be considered. Under "Trade Topics" etc., Mr. Jain mentions the curious system of talking by signs under a piece of cloth prevalent among cotton dealers of Indore, who are also bankers. It may interest him to know that with dealers in precious stones, especially rubies, who are also hereditary bankers and money-lenders, the same system is prevalent in South India. Mr. Jain's attempt to derive "*Nattukottai*" with "*Navakoti Narayana*" seems a mistake. The Nattukottai Chetties now call themselves *Nagarattar*. This is the name of a class of merchants who are both money-lenders and bankers in the Mysore State (Nagarataru). These latter state that they are so-called because they came from *Ayodhyanagar*, the capital of Rama, the hero of the epic, to whom they were bankers. By the way, it may be noted that the name of the place in Sivaganga Zemindari with which the Nattukottai Chetties are connected is *Nattarasankottai* and not *Nattarsang Kottai* as it appears in this book. "Nattarāsankottai" means the "fortress of the lords of the country". Then, again, *Telugu* is misprinted (on pp. 92 and 122) as *Telegu*, an old Anglo-Indian form which is now wholly obsolete.

We feel we should add a word about the picture which forms the frontispiece to this work. It is styled "A Banker's Office" and depicts a usurer and a borrower. Though Mr. Jain does not refer to it in the text of his work, except for a word at the end of his Introduction, it is well worth a little space here. It is a striking piece of work. It depicts a scene in an office, the Banker, a clean shaven and capped middle-aged man with his glasses adjusted to his eyes and his flowered covering sitting loosely on his tight fitting coat, evidently explaining in his quiet, persuasive style the conditions on which he would lend to the borrower, an young man in great need with his open mouth eager for his loan and hardly aware how his upper covering is falling away from off his shoulders. The usurer has his little son—possibly grandson—seated next to him, a well groomed and well dressed, blooming young fellow, who is imbibing the elements of the art of lending and there is beside him the inevitable box containing the cash full open, and the safe (or almirah) behind him to replenish further from the hoard in it. There is, besides, to his front, the inevitable teapoy, rounded in shape containing possibly the writing materials. Altogether the picture is an exceedingly life-like one and our only regret is there is no indication from where it comes—except that it is from Lucknow—and who was responsible for it. As it is called "a photograph", it would be worth having further particulars about this picture.

In the *American Magazine* Mr. Calvin Coolidge, the former President, describes the daily routine of the Chief Executive and considers some of the problems that confront him.

"In the discharge of the duties of the office," says Mr. Coolidge, "there is one rule of action more important than all others. It consists in never doing anything that some one else can do for you. Like many other good rules, it is proven by its exceptions. But it indicates a course that should be very strictly followed in order to prevent being so entirely devoted to trifling details that there will be little opportunity to give the necessary consideration to policies of larger importance.

"Like some other rules, this one has an important corollary which must be carefully observed in order to secure success. It is not sufficient to entrust details to someone else. They must be entrusted to someone who is competent."

Failure of Prohibition in Ceylon.

By A. S. Guruswamy, Advocate, Ceylon.

A description of the drinks of Ceylon is first needed to enable many readers of the *Mysore Economic Journal* to compare or contrast the excise policy of Ceylon with the policy prevailing in the Mysore State or other parts of India. By far the most extensively consumed intoxicants by the great masses of the population are *arrack* and *toddy*—as distinguished from foreign liquors of all varieties indulged in by select classes and connoisseurs.

Toddy is the fermented juice of Ceylon palms limited to the cocoanut, palmyrah and kitul. No other kinds of any sort, like, for instance, the date that is so well known in the Madras Presidency as "Eechai" are ever tapped. *Arrack* is the condensed vapour manufactured from fermented toddy locally and doctored more or less with alcohol to secure the standard fixed by law.

Arrack and toddy mainly constitute the liquor interest in Ceylon, forming the national drink of the indigenous population of the Island from very ancient times. Whatever may have been the system that prevailed in Ceylon when it was under purely native rule, since the advent of the European rulers a substantial part of the public revenue was derived systematically from arrack and toddy by the Portuguese in the sixteenth century, by the Dutch who supplanted them and governed the Island until they were themselves in their turn replaced by the British rulers about the beginning of the nineteenth century. Naturally enough arrack and toddy have formed the chief target at which temperance activities and eloquence were aimed. Reformers who seek to improve the morals of a people by legislature, missionaries of all times, and faddists of various sorts and convictions have, from time to time, laid to the credit of these drinks all the undesirable features of Eastern life, and fastened the main responsibility of every crime.

The Report for 1928 of the Excise Commissioner, a Civil Servant of exceptional ability, recently published contains, among many interesting matters, a disclosure that prohibition which has been introduced into a particular district has proved a failure. In spite of the prophets of evil who discounted the value of the results of the local option polls on grounds of improper manipulation, the public generally and the Government viewed the experiment with genuine favour, with a view to extend the experiment to other districts should it succeed in the district in question.

Now that the report of the Commissioner establishes beyond doubt that prohibition has proved a thorough farce, much disappointment and amusement prevail. Some piquancy to the situation has been also added from the fact that the Jaffna district where it was tried is the most Americanized of all places in Ceylon. Jaffna has been the one field where the American Mission has been at work for close upon a century. Her education, industry, mode of life, public institutions have taken the colour peculiar to America. It must be also added the advance of late of the Prohibition cause in the United States of America, and the success achieved by the President at the last election on the Temperance plank, have had not a little to do in Jaffna which has chosen to model after the great American example.

The following conclusions are made out by the Report:—

The collected data clearly show that though the taverns (liquor-shops under license) are closed the area is far from "dry". Excise offences in the so-called "dry" area top the list of excise offences for all Ceylon.

The figures of Police crime show considerable increase of serious crime in Jaffna during the period under review and the increase is largely attributed to the demoralization and disrespect for law and order which results from the constant infringement of the excise law.

In 1928 seven toddy taverns were re-opened in two places in the Jaffna district. This made the consumption of foreign liquors drop 50 per cent. This showed the secret of solving the problem of restricting the use of spirituous liquors lay in providing every facility for tapping and sale of toddy. The objection to toddy taverns with their stale and adulterated toddy and their crowds of customers could be removed by the imposition of a *tree-tax*.

The large volume of toddy that is sold illicitly in the "dry" areas where there are no licensed taverns cannot possibly be estimated. "I have good reason to believe," says the Commissioner, "that over one million gallons is illicitly tapped and consumed in Jaffna district alone. The closure of toddy taverns has certainty not decreased the toddy consumption of the Island; it has merely driven the traffic underground and removed the possibility

of effective control and of reasonably accurate estimates of consumption.

The Commissioner discourages the issue of free permits to draw *sweet toddy* out of which to prepare jaggery, because of the screen it affords to the illicit tapper. It is so easy to draw toddy sweet and ferment it afterwards that detection is difficult. It is more paying to ferment and sell the toddy than to make it into treacle or jaggery.

The imports of beer have been rising 50 per cent showing its replacing the consumption of arrack and toddy.

Though the Local Option Polls were cleanly conducted it is established both on the testimony of Excise Officials and Temperance workers alike, there was some adroit exploiting from outside. Some persons, unconnected with *bona-fide* Temperance workers, have levied "black-mail" from licensed tavern-keepers either after applying to Government for a "poll" for closing the taverns or with the threat of making such applications.

TRICKS OF ILLICIT DEALERS.

Some illicit traffickers hide their supply on the tops of cocoanut trees and have it cautiously lowered when an approved customer approaches and the coast is clear. Others select in the middle of a grove or jungle an open space from which a clear view of all approaches can be obtained. The approach of an excise officer is signalled, and when he arrives he finds the quarry flown, and pots of toddy left in a position which precludes any charge of any possession against any person.

Very few "boot-leggers" now keep more than two bottles (the maximum allowed by law) in their possession. They dispose of the rest of their stock-in-trade in large quantities in other houses, or in secret hiding places, usually in an abandoned garden or hut—sometimes even in a Church, sales are made only to trusted and approved customers and no money passes. Transactions are on a deposit or credit system and the kind of evidence which our courts require to prove a charge of illicit sale is not forthcoming.

In an illicit transport case 15 gallons of arrack were consigned by rail as whisky. Two cases of smuggling by fishing boats from Mannar were detected. A passenger's trunk in a railway compartment was found to contain two gallons of arrack. Several consignments were seized in motor cars. In one case a "shooting party" returning from Mullativoe district by night brought with them 15 gallons of arrack. Another car containing apparently a large amount of arrack in bottles and jars broke through the excise barrier damaging the Excise Officer's car and a culvert of the Public Works Department. In another case the occupants of a car suspected to be carrying "Ganja" fired upon the excise pursuers with revolvers and got away.

"SPEAK-EASIES."

In Jaffna town there are 56 known "speak-easies" or "blind-pigs" as they call illicit saloons in America. Twelve of these have been raided and heavy fines were inflicted; but no reduction of sales has resulted.

After giving statistics of offences and detections showing that those districts where taverns have been shut up by Local Option Polls head the lists, and where no taverns have been *closed range at the bottom end of the* scale, the Commissioner concludes his report in *the words of one of his predecessors in office* who said: "The only result of diminishing the *number of taverns is to increase the number* and profits of illicit sellers."

EXCISE POLICY.

His Excellency Sir Herbert Stanley, now on his visit to Jaffna, received a deputation of the "*Jaffna Central Temperance League*" led by a member of the Legislative Council. He presented an "*All-Jaffna Memorandum*" of which the most important points were that the Excise Policy of Ceylon, after a trial of 10 years, has failed to carry out the purposes for which it was introduced; and the proposal of an alternative to a Total Prohibition—a modified form of prohibition called "Permit System".

His Excellency replied that sometime back he made a statement that he was no believer in Prohibition. Later, at a meeting of a Temperance organization in the South, a member thought it fit to say that he (the Governor) was drunk when he made the statement. "It was my honest opinion" said His Excellency. Prohibition would be costly and unpracticable. It was not desirable to have legislation for Jaffna different from the rest of the Island. Even if such legislation were to be introduced Jaffna alone would bear the cost. His Excellency further stated that there was no record left by any of his predecessors that the Excise Policy should be carried on in such a way as to ultimately lead to prohibition. Speaking about toddy His Excellency was in favour of a *tree-tax* system being adopted subject to certain modifications with regard to arrack and foreign liquor, Jaffna should go with the rest of Ceylon in any reform. In

England the rise of the price of liquor has imdinished the consumption of drink. The same experiment might be tried in Ceylon.

In reply to a remark made by the Member of Council that liquor once sold in England for 2s. 6d. was now being sold for 10s. 6d., whereas in Ceylon Government has raised the customs duty only 50 per cent; His Excellency said that the price of liquor must be raised in Ceylon.

Madras Since the British Conquest—VII.

By The Editor.

H. H. Krishnaraja Wodeyar III (1811-1831).—(*Contd.*)

A MIS-STATEMENT CORRECTED.

Mr. Rice, in the revised edition of the *Mysore Gazetteer* (I. 428), following what is noted in Para. 37 of the Historical Summary of the *Mysore Administration Report* of 1872-73, says that the Governor-General ordered the formation of a Committee (consisting of Major-General Hawker, Col. W. Morison, Mr. J. M. Macleod and Lieut.-Col. (afterwards Sir Mark) Cubbon) to investigate the "origin, progress and suppression of the recent disturbances in Mysore", that their report showed that the misgovernment of the Raja had produced grave and widely spread discontent, that the revenues were rapidly falling and that mal-administration was rampant in all departments of the State, and that the Governor-General Lord William Bentinck, therefore, determined upon acting on the fourth and fifth Articles of the Subsidiary Treaty. This means that the appointment of the Investigation Committee was the first step the Governor-General took and that their Report having brought to light rampant mal-administration, it was as a consequence of the Report that he determined upon acting on the fourth and fifth Articles of the Subsidiary Treaty. *The fact is quite otherwise.* It was in October 1831, when His Highness the Maharaja Sri Krishnaraja Wodeyar Bahadur III was celebrating the Dasara in that year, that Lord William Bentinck wrote (*vide* letter quoted in the book entitled "General Memoranda", on Mysore of 1833) to His Highness asking for the surrender of the Administration and His Highness made immediate surrender. The Report which the Committee appointed as aforesaid submitted to Lord William Bentinck is dated 12th December 1833. Soon afterwards Lord William Bentinck termed the assumption of Mysore as a "distressing subject". He wrote a letter to His Highness from Ootacamund on 8th April 1834 as follows:—

"My Esteemed Friend,—When I had the pleasure of conversation with you at Mysore I promised so soon as I could find a short period of leisure to communicate further with you on the distressing subject of the assumption of the Mysore Dominions.

My sentiments and views in this matter I have confided to the Resident at your Court in the fullest and most unreserved manner. That gentleman is charged by me with a proposition to Your Highness of the most vital importance to your interests. For the particulars of that proposition I beg to refer you to Mr. Casamaijor who leaves this place immediately for the express purpose of conferring with you on the subject.

I should wish for an early communication of your sentiments and I sincerely trust that your decision may be such as will be most conducive to your own comforts."

In his Despatch of the 14th April 1834, addressed to the Secret Committee of the Court of Directors, Lord William Bentinck remarked as follows:—

"By the adoption of the arrangements which I advocate, certain doubts will be removed which I cannot help entertaining both as to the legality and the justice, according to a strict interpretation, of the course that has been pursued. The Treaty warrants an assumption of the country with a view to secure the payment of the Subsidy. The assumption was actually made on account of the Raja's misgovernment. The Subsidy does not appear to have been in any immediate jeopardy. Again the Treaty authorizes us to assume such part or parts of the country as may be necessary to render the funds which we claim efficient and available. The whole has been assumed, although a part would unquestionably have sufficed for the purpose specified in the Treaty; and with regard to the justice of the case, I cannot but think that it would have been more

fair towards the Raja, had a more distinct and positive warning been given him that the decided measure, *since adopted, would be put in* force, if misgovernment should be found to prevail."

Accordingly, in his letter to His Highness of 14th May 1834, Lord William Bentinck said :—

"I have made a communication on the subject to the authorities in England and should they sanction the arrangement it will immediately be carried into effect. In that case, the Fouzdaries of Manjarabad, Mysore and Ashtagram will be made over to Your Highness on the conditions specified by Mr. Casamaijor and cited in your letter to me. The remainder of the Territory or so much of it as may suffice to satisfy the claims of the Company will be made over to the British Government. Intimation of the pleasure of the Home authorities on this head will probably be received before the expiration of the present year."

Lord William Bentinck's successor, Lord Metcalfe, in his letter of 5th April 1835, in reply to His Highness' reminder, wrote :—

"My friend, you appear to be disappointed because the expectation held out to you by His Lordship that the resolution relative to the affairs of Mysore would reach this Country from England by the close of the past year, has not been fulfilled ; but you will readily admit that *the realization of this expectation* depended upon circumstances wholly beyond His Lordship's control. I sincerely hope, however, that your mind will not be kept much longer in a state of suspense, and that the decision of the Home authorities may be conformable with your inclination."

The Governor-General Lord Auckland, in his letter to His Highness, dated 28th March 1836, announced the decision of the authorities in England to say that it was thought that His Highness' interests would be best served by maintaining the then undivided and beneficial Administration of His Highness' Territories until such salutary rules and safeguards were matured and confirmed in practice as would afford just ground for confidence to the subjects of a stable form of good government.

From the foregoing it is evident that :—

(1) The Administration was taken over by Lord William Bentinck before he received the Report of the Committee he nominated to enquire into *the causes of the disturbances in* Mysore and not afterwards ;

(2) That on a perusal of that Committee's report, when it reached him, His Excellency saw the harshness of the measure he had adopted in assuming the Territories of Mysore in entirety ;

(3) That consequently he made immediate proposals to the Home authorities to set things *right : and*

(4) That the assumption was quite a temporary measure for the occasion.

The matter has been referred to at some length here, because it is of vital importance as affecting the circumstances of the reign and reputation of so popular and sagacious a Sovereign as His late Highness Sri Krishnaraja Wodeyar III. *At any rate it seems high* time to set it forth in its true light, and to give no room for misconstruction or misunderstanding. This is the more necessary as the true facts can easily be put historically so as to serve all interests concerned and yet offend none.

NOTICE OF RESUMPTION.

Lord William Bentinck, having determined upon acting on the fourth and fifth Articles of the Subsidiary Treaty, addressed a letter to His Highness in which, after recounting at some length the objects of the Subsidiary Treaty he went on to say, "I have in consequence felt it to be indispensable, as well with reference to the stipulations of the treaty above quoted, as from a regard to the obligation of the protective character which the British Government holds towards the State of Mysore, to interfere for its preservation, and to save the various interests at stake from further ruin. It has seemed to me that in order to do this effectually, it will be necessary to transfer the entire administration of the country into the hands of British officers ; and I have accordingly determined to nominate two Commissioners for the purpose who will proceed immediately to Mysore.

"I now therefore give to Your Highness this formal and final notice, and I request Your Highness to consider this letter in that light ; *that is, as the notice required by the Treaty to* be given to Your Highness of the measure determined upon for the assumption and management of the Mysore Territory in the case stipulated. I beg of Your Highness, therefore, to issue the requisite orders and proclamations to the officers and authorities of Mysore, within ten days from the date when this letter may be delivered to Your Highness, for giving effect to the transfer of the territory, and investing the British Commissioners with full authority in all *departments, so as to enable them to proceed* to take charge and carry on affairs as they have been ordered, or may be hereafter instructed."

To His Highness in accordance with the Treaty, the sum of one lakh of star pagodas per annum was allotted for his private expenses.

Resumption of Administration and After

His Highness, who received this communication at the time of the Dasara (19th Oct. 1831), peaceably surrendered the reins of government, and continued to reside in his palace at Mysore. The Governor-General vested the government in the hands of two Commissioners, the senior of whom was appointed by himself, and the junior by the Madras Government. The Senior Commissioner, who possessed what was termed a casting-vote, and was therefore enabled to overrule his colleague on every point, was aided in financial matters by the Dewan, which latter post was not abolished until 1834. (The Dewan at the time was one Mr. Venkataramanaiya. He retired on 14th May 1832 and was succeeded by Babu Rao, who remained in office till 19th April 1834. The Commissioners, it would appear, had originally intended to leave in the Dewan's hands almost as much power as he had had under His Highness the Maharaja, but the Governor-General did not concur in this view of their duties.) Up to June 1832, the Commissioners were under the Government of Madras, but in that month they were made immediately subordinate to the Government of India. It was soon found that a Board of two Commissioners, who naturally constantly differed in opinion, was an agency ill-adapted for the organization of a proper system of government.

The following is a list of these Commissioners, with their dates of office :—

Senior.

Colonel J. Briggs	.. 4th Oct. 1831
,, W. Morison	.. 6th Feb. 1833

Junior.

Mr. C. M. Lushington	.. 4th Oct. 1831
,, C. D. Drury	.. 18th Feb. 1832
,, J. M. Macleod	.. 16th June 1832
Colonel Mark Cubbon	.. 17th Feb. 1834

Accordingly, in April 1834, one Commissioner, Colonel Morison, was appointed for the whole State, and on his transfer to Calcutta, Colonel (afterwards Sir Mark) Cubbon took charge in June. But the office of Resident was still maintained, and thus a dual control continued to exist. Colonel J. S. Fraser, who had just carried out the deposition of the Raja of Coorg and the annexation of that country, was, in June 1834, appointed Resident in Mysore and Commissioner of Coorg. In 1836, he was made Resident in Travancore, and in 1838 at Haiderabad. Major R. D. Stokes succeeded him at Mysore, and remained till 1843, when the post of Resident was abolished.

Indian Administration slowly displaced.

The instructions of the Governor-General to the Madras Government on the first assumption of the Province had been to the effect that " the agency under the Commissioners should be exclusively native ; indeed, that the existing native institutions should be carefully maintained." These views were subsequently confirmed by the Court of Directors in their letter dated 25th September 1835, in which they stated that they were " desirous of adhering as far as can be done to the native usage, and not to introduce a system which cannot be worked hereafter by native agency." The above instructions were, as far as possible, adhered to in the early days of the Commission. But in process of time, considerable departure was made from them. Indeed, in course of time, four European Superintendents displaced the Indian Faujdars. Later on European Assistants were also appointed. The Huzur Adalat, composed of Indian Judges, was allowed to remain the highest judicial authority in the State, but its sentences were made subject to the confirmation of the Commissioner.

Was the Resumption Just ?

Whether the circumstances justified the resumption of the administration of the territories by the Supreme Government under Articles 4 and 5 of the Subsidiary Treaty need not detain us long. Mr. Lewin Bowring has, as mentioned above, suggested that the disturbances that occurred at about this time did not justify such a step. Whether alleged " misgovernment " to which also he refers (*Eastern Experiences*, 190-191) was such as to entitle the Supreme Government to act on those Articles has been discussed by many distinguished writers. It is unnecessary to go here into details and it ought to suffice if it is stated : (1) That the subsequent Rendition of the State to His Highness' son and heir shows that the case for resumption did not rest on a secure basis. (2) That the greatest authorities including John Stuart Mill, John Morley and many others were for the Rendition shows at least the *prima facie* case against the assumption that the resumption ordered by Lord William Bentinck could not be justified. (3) That even Lord William Bentinck subsequently thought that the step taken by him was not altogether justified. (4) That the subsequent correspondence shows that His Highness' position was not, as Sovereign, altered and that the administration was still only conducted in

his name and on the basis that the Rendition would be inevitable. "In fact," as Mr. Lewin Bowring writes, "the sovereign rights of the Raja *were on all occasions* acknowledged, and the treaties with him at all times enforced, even at considerable inconvenience to both Mysore and British territory, as regards judicial procedure." (*Eastern Experiences*, 204.) More than this in a Minute dated 14th April 1834 the Governor-General (Lord William Bentinck) raised this question in a brief manner and answered it thus:—"Has the Company's Government assumed the management of the Mysore country on its own account or is that country still managed for and on behalf of the Rajah? Is the Subsidiary Treaty of Mysore virtually cancelled or is it still in full force? The answer must undoubtedly be that the management has been assumed for and on behalf of the Rajah and that the Treaty is still in force" He held, in the same Minute, *that there had been no* "final assumption of the Mysore Country" and that the assumption made by the Company was something very different from the "final assumption" which would abrogate the Treaty. (See Para. 4 of the Minute quoted; also Para. 9.) (5) That the resumption itself was, from the time it was given effect to, partial and even the Administration was directed to be conducted on Indian lines. The fact that this direction was not later strictly adhered to, was due to circumstances unconnected with the alleged cause of resumption itself.

BENTINCK'S VISIT TO MYSORE, MARCH 16, 1834.

Lord William Bentinck, on the receipt of the Report of the Committee appointed by him for enquiring into the origin of the disturbances in the Nagar district, came to Mysore (*via* Nilgiris) with a view to acquaint himself with the exact position there. He arrived at Mysore on March 16, 1834 and stayed for a short time in the Bungalow on the Chamundi Hill in Mysore City. He had interviews with His Highness, as the result of which he eventually made two important proposals to the Court of Directors: (1) that only half the territory should be administered by the British Commission for securing the Subsidy, and (2) that not more than four European officers should be appointed under the Commission for carrying on the administration as if the Indian agency should be retained so that the ultimate reversion of the administration to His Highness may not be attended with difficulties. There is reason to believe that Lord William had nothing to do with His Highness' rule over his Dominions. As a matter of fact the Committee's searching investigation attributed to the want of adequate care in the exercise of his powers by the Resident. The *Bengal Chronicle*, a Calcutta newspaper of the time, styled it "mismanagement on the part of the ex-Resident," (the Hon. Mr. A. H. Cole) who, it said, was guided by "non-interference or anti-subsidiary theories". It seems clear from the Report of the Committee that His Highness did not receive that amount of friendly co-operation and counsel that the Subsidiary Treaty itself (in Article 14) prescribed and which had always been steadily kept in view by successive Residents at His Highness' Court and given effect to by them in a manner which conduced to the benefit of both the contracting parties. It is greatly to be feared that Mr. Cole, good, able and experienced as he was, failed to realize the true character of his duties and was guided less by consideration of prudence than by the authority and power which he supposed he possessed by virtue of his position. The Bentinck Committee, composed of some of the ablest officers, civil and military, of the time found in fact "that the disturbances that have occurred were greatly attributable to the withdrawal of the advice of the British Resident." The Hon. Mr. Cole was virtually declared to have failed in his primary duty. This finding made such a deep impression on Lord William Bentinck that he ever felt a pang over what he had hastily done in the case of His Highness. He went so far as to put on record the expression of his sorrow for what he had done under a grievous misapprehension of facts. He acknowledged also that the "severe" ultimatum he sent to His Highness was the result of "the exaggerated representations of the Madras Government" to which the superintendence of Mysore was then entrusted. Indeed, Lord William Bentinck not only expressed doubts about the legality of his assumption of administration, but also repented of what he had done, and spoke, after his return to England, of this act as the only one throughout his whole career the retrospect of which disturbed his conscience! In later times, partizan writers tried to justify the assumption on different grounds, everyone of which can, without fear of contradiction to-day, be said to be wholly devoid of reason. It is now acknowledged that the Subsidy was never in danger; that the Supreme Government acted hastily; that the excuse of Subsidy failing, the plea of mis-government was set up, although such a contingency was not

which the action taken was actually based; then the story of an alleged and promised "bequest" was started; this, again, being denied, the Dalhousian maxim of lapse was next thought of: this led in turn to the denial of the sovereign right of Adoption; which finally ended in the open, but unjust, suggestion of "annexation" in the alleged interests of the subjects! Thus one error led to another and threatened eventually the very existence of the State, for no valid reason whatsoever. But His Highness proved equal to the occasion, and supported as he was by firm British friends and well-wishers, he never ceased to hope and to believe that the Government of his country would some day be restored to his hands.

Of the two Commissioners, Lieut.-Col. Briggs, the Senior of the two, belonged to the Madras Army, and was the auther of a work on the "Land-Tax of India" showing an intimate acquaintance with that complicated subject. Mr. C. M. Lushington, the Junior Member, was a brother of Stephen Rumbold Lushington, the then Governor of Madras. He was at the time the Second Puisne Judge of the Sudder Adawlut Court at Madras. Mr. Edmund Smith, of the Madras Civil Service, was appointed as their Assistant. Previous to his appointment, Mr. Smith had been, for some three years, acting as the Assistant to the Chief Secretary to Government and as Deputy Persian Translator to Government. He, however, did not stay for long in that post, for in 1832 he was succeeded by Mr. P. B. Smollet of the same Service.

Mr. Lushington took over charge in October 1831, he being joined in December of the same year by Col. Briggs. Immediately Mr. Lushington took charge of his duties, he appointed one Venkatáramanaiya, who had been sent to deliver charge of the State records, as Dewan. Next, with a view to retrench expenditure, Mr. Lushington (1) abolished the regiment of 500 Burgir Sepoys who had been organized since the days of Purnaiya (see Col. Morison's *Notes on Mysore*, No. 39, Military); (2) resumed all the grants made to religious institutions with a view to examine the legality of their origin; and (3) did away with the Sudder Court. On Col. Briggs' arrival, however, he found he could not agree with Mr. Lushington in what he had done. He reversed Mr. Lushington's decisions in all these matters.

Before we take leave of Briggs, it has to be remarked that he had a vigorous personality and the bearing of a true soldier. He was remarkably assiduous and brought to his task both freshness and sincerity. By close application to the duties of his office, he was able to discern and unmask the real state of affairs. He found out the several mis statements which had crept into official reports and had helped to give birth to the annoyances to which His Highness had been subjected. He confirmed all the grants and charitable endowments conferred by His Highness as they had been, in his opinion, made on valid grounds. Col. Briggs entirely agreed in this particular matter —on which had been built up a wholly baseless charge against His Highness' administration— with the finding of Sir Thomas Munro in 1825. (See *ante.*) His Highness remembered his eminent services to the State and his personal good-will towards him for many years after his departure from the State. Col. Briggs rose to be Major-General and eventually became a Member of the Court of Proprietors of the E. I. Co., in which capacity he offered a stout opposition to Lord Dalhousie's policy of annexation. He is now best remembered as the translator of Ferishta's famous Persian history. He was elected a Fellow of the Royal Society and took a prominent part in the restoration of the administration of the State in 1865-67, forming one of the deputation to the then Secretary of State for India led by Sir Henry Rawlinson. He died in 1875, his *Memoirs* being published by Major Evans Bell in 1886.

REORGANIZATION OF THE MILITARY FORCES.

Col. Conway drew up his report on the organization of the Military forces on 22nd April 1833 and forwarded it to Government. Though in reviewing it, Col. Morison expressed certain differences of opinion, he entirely agreed with him in thinking that there had been deterioration in the character of the Silladars, which he set down by the evil example of the Buckshee who was in charge of them. Col. Morison recommended that the whole of the Silladars (3,500) should be kept up on the existing footing. He agreed that one Buckshee was quite capable, as at present, of managing it and that even if finances permitted it, no European officer need be appointed for its ordinary management. "In the event of war beyond the frontier," he said, "an European Commandant, aided by one staff officer would be requisite." Any such appointment of an European officer during ordinary times would, he was persuaded, only mean "a divided authority" ending in discontent among the troops. But he recommended that there should be a Military Assistant to the Commissioner. who should be allowed to attend to all details arising out of communications received from the Buckshee and to inspect all the remount horses brought

by the men. He was, however, to have no military authority but only to act as Assistant to the Commissioner in the Military matters. (See for further details Morison's *Notes on Mysore*, Nos. 39 and 40.)

CHANGES IN THE RESIDENCY.

In 1834, Casamaijor was transferred as Resident at Travancore, his place at Mysore being taken in June of that year by Col. J. S. Fraser, who also held the posts of Commissioner and Military Commandant of Coorg. In 1836, he succeeded Casamaijor at Travancore, being in turn succeeded in Mysore by Col. R. D. Stokes. Both these won the esteem and friendship of His Highness the Maharaja and did much to soften the situation.

CHANGE IN THE COMMISSIONERSHIP.

Meanwhile in June 1834, Col. Morison was transferred to Calcutta and was succeeded in the post of Sole Commissioner by Col. (afterwards Sir Mark) Cubbon. Colonel Cubbon continued in this office for twenty-six years during which period the administration of the State was conducted on lines which won universal admiration.

Co-operation in Burma.

By Christopher Hay, M.A.

A supplement to the *Burma Gazette* contains the proceedings of the Government of Burma (Ministry of Forests), dated the 23rd July 1929 reviewing the Report of the Committee on Co-operation in Burma for the year 1928-29. The Report, for which the Government state they are greatly indebted to the Committee, is the result of as thorough an examination of the position of the co-operative movement in Burma as was possible in the time available and the Committee's conclusions are set forth ably and clearly. The present condition of the movement is indicated by the fact that out of 3,800 primary agricultural societies no less than 1,400 are in liquidation. The principal causes of this state of affairs are summarized in paragraph 10 of the Report. First and foremost must be mentioned the failure of the Union System. The conception of a supervising and guaranteeing Union was a bold one, and had the Unions achieved the work for which they were designed the co-operative movement in Burma would have been in a very healthy condition and greatly superior to a movement supervised by a large staff of Government Officials. But clearly the Unions have failed and it is evident that the experiment was premature. They suffered from an inherent weakness, as was pointed out by an earlier Registrar, in a characteristic of the Burmans, namely, a certain delicacy in dealing with the faults and misdemeanours of their neighbours. "The members," it was said, "are, as a general rule, perfectly well aware of what is wrong and sincerely anxious that it should be put right. But they shrink from the unpleasantness that must necessarily accompany the ousting of an unsatisfactory Union or society official or the ejection or suing in a civil court of a recalcitrant member, and prefer to put up with maladministration or malpractices, in the hope that one of the Government staff may one day come and put things right."

Another of the main causes of the present position is found by the Committee in the failure to train an efficient staff to support the Registrar. It is to be remembered in this connection that the lack of higher education in Burma among the class from which the subordinate Government staff and the audit staff had to be drawn militated against the recruitment of a body of men sufficiently well-equipped to carry out the directions of the superior supervising staff in an intelligent manner, and also that war conditions necessitated the cutting down of the superior staff at a time when the rate of expansion was at its highest and resulted in a situation in which the Registrar's direct control had largely to be abandoned. Yet another main cause of failure lies in the fact that unsatisfactory Societies were not dealt with promptly. Government agree with the Committee that action should have been taken earlier to disregister Societies that did not repay their debts and to secure the speedy liquidation of the Societies actually disregistered. The reasons why bad societies were not disregistered more promptly lay first in the policy of the Department followed down to a very recent period that the safest way of recovering a loan from a weak society was to "nurse" it, and secondly in the paucity of the official staff. In these Districts of Upper Burma which suffered from a sequence of bad seasons between 1918 and 1924 the officers of the Department had much sympathy with the position of honest Societies and

persisted for years in hoping for a good season which would enable the Societies to get their heads above water again. Meanwhile the assets of the members of such Societies steadily and inevitably disappeared and in very many cases nothing was left when liquidation was finally resorted to. Delays in carrying out liquidation similarly resulted in the melting away of assets and also encouraged neighbouring Societies who saw that liquidation involved no ill effects to follow the downward path. The problem of securing speedy liquidation of disregistered Societies was under constant examination by the Department and many experiments were tried before it became clear that the only reasonably satisfactory machinery for liquidation is the official staff. In the opinion of Government the wholesale demoralization of Societies which made itself so apparent from 1924 onwards was largely due to this failure, for whatever reasons, to deal adequately with Societies which had been in an unsatisfactory condition for a prolonged period. The Committee consider that failure of the co-operative credit system may be attributed in part to the series of bad harvests in Upper Burma between 1918 and 1924 and in this opinion Government concur. It is to be noted that about 90 per cent of the losses of the Burma Provincial Co-operative Bank, Limited, will be in respect of Societies in Upper Burma and that the estimated loss from Societies in the Sagaing District concerning which the Committee note that "it is difficult to see from what source any recovery of loan was possible after 1920-21," exceeds 10 lakhs or almost one-fourth of the Bank's estimated total loss.

In the course of their report, the Committee express some doubt whether Co-operative Societies, dependent as they are on a spirit of self-help and mutual interest, are really suitable to the people of Burma but their final conclusion is that the Government are justified in persevering in the attempt to create a sonnd well-controlled system of rural credit. The objects to be aimed at are summarized in the first three Recommendations in the Summary of Recommendations at the end of the Report. The first object should be to build up an organized system of co-operative banking (including co-operative land mortgage) in order that it may become eventually the main source of rural finance. At the same time there is required a co-operative organization for securing better methods in all the business transactions (apart from credit) of the rural classes including more economical provision of the requisites of their agriculture and the more profitable disposal of the profits of their labour. In this branch of work close touch must, of course, be maintained with the Agricultural and Veterinary Departments. And finally, it should be a definite part of the Department's objective to bring about a better standard of living in rural areas by attacking the apathy and ignorance of the rural population by educating them up to acceptance of the measures advocated by the Departments of Education and Public Health, and generally by organizing public opinion against habits and customs tending to hinder economic progress and to lower the standard of health. The Government are in general agreement with the views of the Committee as stated in these Recommendations.

It would not be convenient in this place to discuss all the criticisms made and the changes proposed in the 309 recommendations summarized at the end of the Report. The general effect, however, of the recommendations is that a system closely modelled on that which is being carried on with so much enthusiasm in the Punjab is recommended for adoption in Burma. That system involves close control by the Government officers of the Department, and the controversial question of the proper limits of Government intervention in the business of co-operative societies arises.

When the first legislation to establish co-operative societies in India was introduced in India in 1903 it was explained that extensive powers were being given to the Registrar in order to secure that the privileges given by the new legislation should not be taken advantage of by bogus societies. The Registrar for the first few years at least would be constantly visiting societies: but as a friendly adviser rather than as an inspecting officer. "As experience is accumulated and the societies gain strength and are able to stand alone, and as their numbers multiply, 'the dry-nurse' element will disappear from his duties which will become more purely official." In reviewing progress however ten years after the passing of the first Act the Government of India declared their opinion that it is necessary that Government, through their own and the societies' staff, should continue the co-operative education of the societies long after they are registered, and pointed out that supervision by Government officers has an important effect in attracting public confidence. But at the same time the Government of India declared that a co-operative movement must, in its essence, be a popular one, that nothing should be done to weaken the feeling among co-operators that it is based upon self-reliance and

independence, and that Government, therefore, *must not allow co-operation to become an official* concern managed by State establishments. The recommendations of the Committee on *Co-operation in India*, 1915, were in accordance with the opinions which the Government of India expressed in 1914. In so far as the recommendations in the Report of the Committee on Co-operation in Burma are in accord with these authorities Government accept them generally. The recommendations for extending the intervention of Government officers in the financial business of co-operative societies and banks, however, needs further consideration. *In recommendations 55, 56, 61, 62, it is proposed* that the applications of primary societies for loans should be forwarded to Central Banks *through Junior Assistant Registrars (now called* Co-operative Myooks), presumably for their advice and recommendation; and in paragraph 25 it is recommended that the Government staff "should attempt to advise the financing body" as to whether the "maximum normal credit limit" of societies is reasonable or not.

When the first co-operative credit societies were formed under the Co-operative Societies Act, 1904, in Burma, as in other provinces, the *Provincial Government offered loans equal to* the amount of the share capital and deposits which the society was compelled to collect. Local deposits were *not at first forthcoming* and the amount subscribed by the members as shares *plus* an equal amount as a Government loan was not sufficient for the society's needs. The early Registrars, therefore, sought for deposits from outside the locality. They were obtained at first from Government officials and private persons—for the most part, Europeans—resident in Burma. A firm of solicitors, through whom many such deposits were obtained, then *became a regular agency for placing* such deposits with co-operative societies on the recommendation of the Registrar. Finally in 1910 the *Upper Burma Central Bank* was established with one of the firm of solicitors as its first manager. For some time the Bank continued to issue loans on the requisition of the Registrar, but in 1915 a change was introduced by Mr. English who had been a member of Maclagan Committee on Co-operation, 1915. The new system described in one of Mr. English's circulars provided for the partial withdrawal of the Registrar from intervention in the financing of *societies and for.* the Central Bank to take responsibility in issuing loans on the advice of the unions which were declared responsible for assessing the credit to affiliated societies, for sanctioning borrowings by societies, enforcing proper repayment both to the Central Bank and other depositors and for making forecasts of repayments and requirements to guide the Central Bank and the Registrar. "The Registrar," *the Circular says*, "will fix the maximum borrowing capacity of each society once a year for the 12 months ahead. The Central Bank will, within the limits so fixed, allot cash credits to unions once a year for 12 months ahead." The Circular says that the Central Bank will, in consultation with the Registrar, allot a cash credit to the union after considering the funds at its disposal. The societies were required to estimate before each harvest the repayments they could make to the Central Bank and these estimates were required to be approved by the union. After making the *repayments so promised the society was* permitted to indent upon and deal direct with the Central Bank merely sending its indents through the union committee to assure the Central Bank that signatures, etc., were in order. The Central Bank was enjoined to take no notice of indents on the cash credit in the case of societies which had not repaid the amount fixed by the union. The Central Bank might also, for shortage of funds or other good reason, *refuse to comply with an indent*; but *if it so* refused, it was to inform the union of its reason. It continued to be the aim of the Department *that* the Registrar and the officers of the Department should gradually withdraw from all intervention between the primary societies and the Central Bank in business relating to financing. The unions were regarded as local agents for the Central Bank which would supply local information about the borrowing societies and would back such information with a guarantee. At a later time, when some District Central Banks had been formed, in order to prevent the Central Banks *relying upon the maximum* borrowing limits fixed by the Depratment and neglecting other means of assessing credit, the *fixing of borrowing limits was discontinued* for societies dealing with Central Banks in Lower Burma. The Provincial Bank, however, had been originally created by the Department, its officers were recruited and other appointments sanctioned by the Department: and it is evident that the Bank continued, in spite of the attempts to establish an improved system in which the Bank should not rely upon the Registrar, to depend upon the Department both for assessing the credits of the primary societies and for recovering the loans.

The Provincial Bank, which was founded in 1911, has been working at a loss for several years owing to the failure of many primary

societies to pay even the interest on their loans. The Bank has now exhausted its cash resources, strong though it was in that respect, and there is no prospect of restoring its solvency save by a direct Government grant. Government, in consideration of the relations of the Bank to the Department, which have been described above, felt obliged to come to the assistance of the Bank temporarily by guaranteeing an overdraft with the Imperial Bank and have now decided to accept responsibility for making good the deficit of the Bank's assets required to repay the depositors. The cost to provincial revenues is estimated at about 30 lakhs. Government consider that the interests of the co-operative movement will be best served by not putting the Bank into liquidation but by allowing it to wind up gradually its affairs as an "apex" Bank for Burma. The alternative course mentioned by the Committee of putting the Bank into liquidation with a guarantee by Government for the repayment of deposits would involve approximately the same cost to provincial revenues.

It is clearly necessary that Government should take precautions about the effectiveness of which there can be no doubt against any recurrence of such entanglement on their part in the financial liabilities of co-operative institutions. They desire to lay it down clearly therefore that the primary functions of the Co-operative Department are education (Recommendation 4), supervision (Recommendation 16) and control of audit to the extent stated in Recommendation 26. They entirely agree with the principle stated by the Committee in paragraph 64 that the financing agencies must be entirely responsible for loans, deposits and internal working. A more controversial point is raised when the Committee proceed to recommend that the co-operative staff should attempt to advise the financing body whether the maximum normal credit limit of a society is reasonable or not in view of rural conditions and that applications for loans other than crop loans should be submitted through the Junior Assistant Registrar. The suggestion, of course, is that though the responsibility for granting a loan must rest entirely with the financing agency, the advice of the co-operative staff should be at the disposal of the financing agency. As at present advised, however, though they have not yet arrived at a final conclusion, the Government are disposed to feel that even the giving of official advice as to the granting of loans would weaken the Bank's sense of responsibility and might end in placing the Department in much the same relation to the financing agency as that in which it was involved in the case of the Provincial Bank and provisionally they are of opinion that Recommendations 55 and 56 should not be accepted.

Another important matter which requires special consideration is the objects and periods for which loans should be granted by the primary agricultural credit societies. The Committee in Chapter II of the Report appear to take the view that co-operative credit was started in Burma without special enquiry directed to discover whether there was any particular need for better credit facilities, that when the work was begun it was found that there was reason to doubt whether, in fact, there was any need to provide the cultivators in Upper Burma with advances for cultivation, and that accordingly prior debts were transferred to the societies. The Committee say that the result in this Province has been that an excessive proportion of the working capital has been locked up in loans for the repayment of prior debt. That, after the matter of control by the Department, appears to be one of the most fundamental faults which the Committee have found in the agricultural co-operative credit system in Burma. The Committee are not unanimous as to the way in which this fault should be corrected. The minority are of opinion that in future only "crop loans" should be given to the members of agricultural credit societies. By "crop loans" (or "A" loans) is meant loans repayable in full out of the proceeds of the harvest in a normal year: and such loans are to be given only for the current expenses of cultivation. In their minute of dissent the minority express the views that the frequency of years of disaster in certain Upper Burma Districts is so great that, unless the societies in these districts can, in favourable years, provide a sufficient margin for years of disaster—in the form of investments in Government securities or deposits in Post Office Savings Banks—then co-operative credit, even when restricted to crop loans only, "is not a practicable proposition and had better be dropped". They recognize that loans for the replacement of cattle cannot ordinarily be repaid in full at the next harvest. To meet this difficulty their proposal is that the members should make monthly savings deposits and that the depositors should be allowed to withdraw their savings, and, if necessary, to overdraw their accounts, in the event of death of their cattle. The Chairman, on the other hand, is of opinion that a co-operative credit system such as would result from the minority's proposals, covering only a part of a cultivator's needs

and leaving the rest to be met by the local money-lender. will never prove successful. The attempt to separate clearly productive from unproductive expenditure, he says, has proved impossible. He quotes the example of the agricultural co-operative credit societies in the Punjab. Only about 28 per cent of their loans are strictly for cultivation expenses, while 20 per cent are for cattle and 24 per cent for old debts. Crop loans, as the majority (including the Chairman) hold, should be regarded as the principal business of the societies, but "B" and "C" loans also, which are repayable in 2, 3 or 4 years, should be provided for. Even loans for the redemption of mortgage or other debt and for the purchase of land, since "it is hardly practical politics to postpone such loans" until land mortgage banks have been organized throughout the land need not be altogether prohibited. While the whole Committee agree in giving a most serious warning of the dangers arising from long-term loans and agree in advising certain general safeguards, the majority, including the Chairman, are not in favour of the minority's proposal regarding investment of money by primary societies in Government Securities or deposits in Post Office Savings Banks for the purpose of providing against years of agricultural disaster, and the Chairman thinks that both the minority's scheme of monthly savings deposits for the replacement of cattle and co-operative insurance are impracticable. Government accept the recommendations of the majority of the Committee that crop loans should be regarded as the principal business of the primary agricultural co-operative credit societies and that while "B" and "C" loans also should continue to be provided for, great care should be exercised in the grant of these loans.

The 309 opinions and recommendations summarized at the end of the Report have been examined in detail by a Committee of Officers presided over by the Hon'ble Minister for Forests. The recommendations, with some exceptions of comparatively small importance, have been generally accepted. The Department will be directed to give effect to the recommendations of Mr. Calvert's Committee as modified by the Hon'ble Minister's Committee of Officers and subject to the orders in this resolution on the subject of intervention in the financial business of societies and banks, which would involve Government in liability. Earlier liquidation of defaulting societies (which is recommended in paragraph 110 of the Report) and the acceptance of the principle (Recommendation No. 305) that a society should ordinarily be wound up on application of a creditor under Section 43 of the Act as soon as it appears that the society is neglecting to pay sums due will tend to give both the central banks and the societies a sense of responsibility and to give the financing agencies more effective control, which, it may be hoped, will serve the purpose better in the long run than advice from Government officers on the granting of loans. The suggestion in paragraph 111 of the Report that legislation should be introduced to create an "agricultural charge" on the model of the English Agricultural Credits Act, 1898 in favour of banks is, in Government's opinion of great importance for the improvement of the security for loans of the primary co-operative societies, and it will be carefully examined.

Indian Caste System: A Study—V.

By The Editor.

Origin of Caste: Sir Herbert Risley's Theory.

Sir Herbert Risley who regards the origin of caste "from the nature of the case an insoluble problem" puts forward a "conjecture" as he calls it, derived from the analogy of observed facts. He bases this conjecture, firstly, upon the correspondence that can be traced between certain caste gradations and certain variations of physical type; secondly, on the development of mixed races from stocks of different colour; and thirdly, on the influence of fiction. He thus elaborates his theory:—

"In the case of a complex phenomenon, such as caste, to the formation of which a number of subtle tendencies must have contributed, a that we can hope to do is to disentangle or or two leading ideas and to show how the operation may have produced the state things that actually exists. Following out th line of thought it seems possible to distingui two elements in the growth of caste sentimen a basis of fact and a superstructur of fictic The former is widespread if not universal; t latter is peculiar to India. Whenever in t history of the world one people has subdu another, whether by active invasion or gradual occupation of their territory, t

conquerors have taken the women of the country as concubines or wives but have given their own daughters in marriage only among themselves. Where the two peoples are of the same age, or, at any rate, of the same colour this initial stage of what we have called hypergamy soon passes away and complete amalgamation takes place. Where, on the other hand, marked distinctions of race colour intervene, and especially if the dominant people are continuously recruited by men of their own blood, the course of evolution runs on different lines. The tendency then is towards the formation of a class of half-breeds, the result of irregular unions between men of higher and women of the lower, who marry only among themselves and are, to all intents and purposes, a caste. In this literal or physiological sense caste is not confined to India. It occurs in a pronounced form in the Southern States of the American Commonwealth where Negroes intermarry with Negroes and the various mixed races, mulattoes, quadroons and octoroons, each have a sharply restricted *jus connubii* of their own and are absolutely cut off from legal unions with white races. Similar phenomena may be observed among the half-breeds of Canada, Mexico and South America and among the Eurasians of India who do not intermarry with natives and only occasionally with pure-bred Europeans. In each of these cases the facts are well-known. The men of the dominant race took to themselves women of the subject race and the offspring of these marriages intermarried for the most part only among themselves. The Eurasians of Ceylon, who are known locally as "Burghers" are a notable example of the formation of a caste in the manner here described. During the Dutch occupation of the Ceylon (1656—1795) very few Dutchmen settled in the Island. This fact, combined with tremendous penalties imposed by the puritanical Dutch laws on the sin of fornication, induced many of the Colonists to marry Singalese women of the higher castes. The descendants of these marriages ranked as Dutch citizens and very soon crystallized into a caste disdaining further alliances with the natives and marrying only among themselves. Conscious of their legitimate parentage and proud of title which recalls their Dutch ancestry, the "Burghers" of Ceylon now form a distinct and independent class standing apart from both Europeans and natives and holding a position far superior to that of the Eurasians in India. Illustrations of the same process may be observed in the Himalayas where, if anywhere in India the practices recorded with exaggerated precision in the Indian law books still survive. The Dogras of the Kangra Hills and Khas of Nepal are believed to be the offspring alliances between conquering Rajputs and women of more or less Mongoloid descent. In the case of Nepal *Hodgson* has described at length the conditions of these unions which correspond in principle with those of the traditional system of Manu. Working from this analogy, it is not difficult to construct the outlines of the process which must have taken place when the second wave of Indo-Aryans first made their way into India through Giljit and Chitral. At starting they formed a homogeneous community, scantly supplied with women, which speedily outgrew its general habitat. A company of the more adventurous spirits set out to conquer f r themselves new domains among the conquering Dravidians. They went forth as fighting men taking with them few women or none at all. They subdued the inferior race, established themselves as conquerors and captured women according to their needs. Then they found themselves cut off from their original stock partly by the distance and partly by the alliances they had contracted. By marrying the captured women they had, to some extent, modified their original type; but a certain pride of blood remained to them; and when they had bred females enough to serve their purposes and to establish a distinct *jus connubii*, they closed their ranks to all further intermixture of blood. When they did this, they became a caste like the castes of the present day. As their numbers grew, their cadets again sallied forth in the same way and became the founders of the Rajput and pseudo-Rajput houses all over India. In each case complete amalgamation with the inferior race was averted by the fact that the invaders only took women and did not give them. They behaved, in fact, towards the Dravidians whom they conquered in exactly the same way as some planters in America behaved to the African slaves whom they imported. This is a rough statement of what may be taken to be the ultimate basis of caste, a basis of caste common to India and to certain stages of society all over the world. The principle upon which the system rests is the sense of distinctions of race indicated by differences of colour—a sense which, while too weak to preclude the men of the dominant race from intercourse with the women whom they have captured, is still strong enough to make it out of the question that they should admit the men whom they have conquered to equal rights in the matter of marriage.

Once started in India, the principle was strengthened, perpetuated and extended to all ranks of society by the fiction that people, who speak a different language, dwell in a different district, worship different gods, eat different food, observe different social custom, follow a different profession, or practise the same profession in a slightly different way must be so unmistakably aliens by a blood that intermarriage with them is a thing not to be thought of. Illustrations of the working of this fiction have been given above in the description of the various types of caste and might be multiplied indefinitely. Its precise origin is necessarily uncertain. All that can be said is that fictions of various kinds have contributed largely to the development of early societies in all parts of the world, and that their appearance is probably due to that tendency to vary, and to perpetuate beneficial variations which seems to be a law of social, no less than of physical, development. However this may be, it is clear that the growth of caste instinct must have been greatly promoted and stimulated by certain characteristic peculiarities of the Indian intellect—its lax hold of facts, its indifference to action, its absorption in dreams, its exaggerated reverence for tradition, its passion for endless division and sub-division, its active sense of minute technical distinctions, its pedantic tendency to press a principle to its furthest logical conclusion, and its remarkable capacity for imitating and adopting social ideas and usages of whatever origin. It is through this initiative faculty that the myth of the four castes evolved in the first instance by some speculative Brahman and reproduced in the popular versions of the epics which the educated Hindu villager studies as diligently as the English rustic used to read his Bible—has attained its wide currency as the model to which Hindu society ought to conform. That it bears no relation to the actual facts of life is, in the view of its adherence, an irrelevant detail. It descends from remote antiquity: it has the sanction of the Brahman: it is an article of faith: and everyone seeks to bring his own caste within one or other of the traditional classes. Finally, as M. Senart has pointed out, the whole caste system, with its scale of social merits and demerits and its endless gradations of status, is in remarkable accord with the philosophic doctrine of transmigration and Karma. Every Hindu believes that his spiritual status at any given time is determined by the sum total of his past lives: he is born to an immutable Karma, what is more natural than that he should be born into an equally immutable caste?"

His Theory Criticized.

This theory has not obtained universal recognition. It has been criticized in diverse ways. It has been suggested, for instance, that Sir Herbert Risley's theory being based on physical measurements made in Bengal, which are at variance with measurements made in other parts of India, and even in Bengal itself, cannot be accepted as final. Sir Edward Gait, as already stated, thinks that there is not that correlation between caste and status which Sir Herbert alleges to exist. Caste is not nearly so "immutable" as Sir Herbert describes it to be. Finally it is a question if Sir Herbert has not exaggerated the influence of fiction in the domain of caste. But it must be acknowledged that he, of all theorists, endeavoured to rivet attention on the ethnic basis of caste. It is true that some earlier writers had hinted at this factor, but they were no more than unverified conjectures. What Sir Herbert did was to give a tangible basis to their conjectures and to make speculation on the subject take a more fruitful turn.

Mr. Ramprasad Chanda's Theory.

Mr. Ramprasad Chanda, the Indian scholar, to whose views we have referred to above, propounds a theory of caste which is in some ways a novel one. He suggests that originally there were five and not four castes. These are, according to him, covered by the description Pancha Janah mentioned in the Rig-Veda, and explained by Yaska as Panchamannshyajatani, *i.e.*, the five classes of men and explained by him as the four *varnas* with the Nishadas as the fifth. The five classes are the Brahmana, Kshatriya, Vaisya, Sudra and Nishada. Mr. Chanda formulates two migrations of Aryans, one through the north-western passes of India from the far North and the other by the Arabian Sea from Mesopotamia, etc. From the first were evolved, according to him, the Brahmans (through the Rishi clans of Vashishta and others) who are spoken of as white in colour in the Rig-Veda (VII, 33.1) and from the later immigrants, who arrived by the sea, were derived the Kshatriyas, through the warrior clan of the Kanwa and Vishvamitra, some of whom were later absorbed into the Brahman hierarchy. These were black in colour. Another section of these self-same immigrants was, according to him, the Vaisyas who became the "tax-paying subject section". The Sudras, according to him, were also Aryans, whether of the first or second group it is not mentioned by him and represent those who had been enslaved as the result of the internecine wars of the

Aryans. The fifth class, the Nishadas, are identified by him with the pre-Dravidians of Thurston and other writers who are described as "Dasyas", "Unaryas", "Anasikas", etc., in the Rig-Veda. All these five classes, according to him, "differed from one another in colour (Varna) and other prominent physical features." This, "the sense of distinctions of race indicated by differences of colour, to use the language of Risley, is the "basis of fact" in the development of caste system.... The conception of the identity of racial or colour difference and social difference was extended to them by fiction and the Vaisyas and Sudras were recognized as separate Varnas or colours. With these two elements, fact and fiction, was combined a third element, heredity of function, copied from the Rishi clans. Colour or race differences, real and fancied, together with hereditary function gave birth to the caste system. But as newer groups formed or attached themselves to the Arya nations, the absurdity of regarding them all as different colours or *varnas* was recognized, and the theory of *Varna Sankara* or mixed caste was started to explain their origins."

Though Mr. Chanda quotes many Sanskrit texts in support of his theory, there are many points still remaining to be cleared in regard to it. Thus, it is made clear by him how the Vaisyas branched off from the Rajanyas and how they came to be regarded as a separate Varna. They were *ex hypothesi* of the same colour, *i.e.*, physical bearing as the Rajanyas. Then again, if they branched off from the Rajanyas, why is it that the *Kathaka Samhita* (xi-6) terms them 'white' (Sukla) while it describes the Rajanya as 'Swarthy' (Dhumra). The theory, on the whole, requires much clearer elaboration and stronger evidence than Mr. Chanda has been able to adduce in support of it, if it is to maintain its ground.

Canadian Trade and Finance.

The Canadian Fur Trade.

Montreal, 5th September.—Although it was fishing which brought the Basques and Bretons to the shores of Nova Scotia and New Brunswick, furs were the attraction which drew them inland; and in the subsequent period, the trade in furs was of paramount importance in the discovery, exploration and development of Canada. The French traders followed the St. Lawrence waterway system into the centre of the continent, sending their furs back to Europe through Montreal. They had explored as far as the Saskatchewan, and perhaps to within sight of the Rocky Mountains, before the fall of Quebec in 1759. The English penetrated farther to the north and purchased furs from the Indians who brought them down to the forts on Hudson Bay. In 1670 a charter was granted to the "Governor and Company of the Adventurers of England trading into Hudson's Bay". Following the Treaty of Paris, English and Scottish traders re-discovered the French trading routes on the Great Lakes and after twenty years of intensive competition between such men as McGill, the Frobishers and MacTavish, the North-West Company or Partnership was formed in 1783-84. Bitter rivalry and exhaustive competition followed until the two companies were amalgamated in 1821 retaining the name of the older company. The amalgamation kept its monopoly of the trade to 1859 when its rights of exclusive trading in Indian territory expired. Ten years later it sold to the Dominion of Canada its other privileges and, though it retained the ownership of a large area of western lands, it became an ordinary trading company with no special rights in the administration of justice. Winnipeg is now its chief collecting and distributing point, while the competition which has developed is centred at Edmonton. Montreal remains an important market for the independent trappers and traders and is the collection point for the furs of the Ottawa Valley and the Quebec hinterland.

During the early period of Canadian development and in the opening years of the 19th century, the value of the export trade in furs exceeded that of any other commodity. Although furs are no longer among the most important Canadian exports, the total output has not declined. According to the decennial census, the value of the pelts of all animals trapped in 1880 was $988,000 and in 1910, $2,000,000. The total value of raw furs produced in Canada during the season 1927-28, the latest of which statistics are available, amounted to $18,500,000 compared with $18,800,000 in 1926-27. These totals include the pelts of all fur-bearing animals, whether taken by trappers or raised on fur farms. Ontario produced the largest value of furs having a total in 1927-28 of $4,400,000, followed by Quebec with $3,500,000, the north-west territories, $2,000,000, and Saskatchewan, $1,900,000.

The treatment and manufacture of fur are very technical processes, requiring highly skilled labour. Before the war a large proportion of this work was carried on in Europe; London and Leipzig were the world's leading fur markets. After 1914, the industry developed in North America and the United States displaced England as the principal market for Canadian furs. Of the $5,100,000 of undressed furs exported to England and the United States in 1914. England received 50%; in 1919, out of $13,300,000 worth only 28% was sent to England. A reversal of this trend has since set in and, in the calendar year 1928, England received 43% of the total value of furs exported to the two countries. Canada exports beaver, marten, lynx, muskrat, mink and various kinds of fox. The total value of all fur imports in 1928 amounted to sixteen million dollars and they consisted largely of Russian squirrel, kolinsky, fitch, Persian lamb, rabbit and astrakhan.

Although London continues to be the most important fur market in the world the development of the dressing and manufacturing industries on this continent has had its effect on the marketing organization. In the United States, St. Louis was always an important collection centre and New York established markets during the war, but with the successful development of the Canadian market and England's recovery of her place as the leading market of the world, the relative importance of the markets of the United States has been somewhat diminished. During 1920, the Canadian Fur-Auction Sales Company was incorporated in Montreal and held its first sale. Sales have also been held at Edmonton and Winnipeg. The Canadian fur market is now firmly established and auctions are held four or five times a year.

TRADE BETWEEN CANADA AND LATIN AMERICA.

The value of Canada's trade with Latin America for the fiscal year just closed was seventy-three million dollars. This was over thirty-five times its value in 1900. Although the present volume is not large compared with the trade of either Canada or Latin America in other directions, yet in the light of probable developments this trade relationship is worthy of careful consideration.

Since the beginning of the century, there has been a remarkable expansion in the economic activities of both Canada and Latin America. The total trade of each area, for instance, is [illegible] times its value in 1900. A review of their individual developments will be necessary in a study of the trend of trade between them.

PROGRESS IN CANADA.

A comparison of present industrial conditions in Canada with the situation nearly thirty years ago produces an interesting picture. Before 1900, agriculture was the leading industry, with manufacturing two-thirds as important. To-day, agriculture still leads in net value of product but the difference is rapidly disappearing. Manufacturing has increased 700% over that of 1901, the agriculture 400%. Coincident with the development in manufacturing has been the construction of power plants to furnish energy for their operations. Hydro-electric installation in 1900 was less than 200,000 horse-power and to-day's installation has a capacity of five and one-half million.

In 1901 the value of Canadian mineral production was less than fifty million dollars and in 1929 the total will be close to three hundred million dollars. It is only within the last four years that the value of the mineral resources of the country have begun to be appreciated. Canada now ranks first among the nations of the world in the production of nickel and asbestos, third in gold, and the output of copper lead and zinc and other minerals is rapidly increasing.

Building contracts awarded in Canada have increased in value in the past fifteen years from $170,000,000 a year to $472,000,000. All groups of economic indices, such as those for employment, car loadings, insurance sales and many others, tend to show that the expansion of the past few years has been general in all lines of industry and that the present prosperity of the country is on an exceedingly stable basis. A comparative study of the corresponding indices in the United States suggests that the rate of improvement in Canada from 1926 to 1928 has been five to six times as rapid as that which has occurred in the United States. Although agriculture remains the most important industry of the country, yet the diversity of economic production has become sufficient so that the disaster to the wheat crop is not expected to produce more than a temporary setback to Canadian business.

Since the beginning of the century the changes in economic conditions in Latin America have led to so great an increase in production and exports that it has affected the trend of trade throughout the world. Most Latin American countries have achieved a political and economic stability which now commands the full con[illegible]

is reflected in lower interest rates and greater facility in securing capital for development of resources. At the beginning of the period, Central America had not learned the possibilities of trade in bananas and other tropical fruits. The automobile was an experiment and the oil fields of Mexico, Colombia, Peru and Venezuela were undiscovered. The outside world had but a vague conception of the mineral riches of the Andes. Wool, beef, hides and skins were then more important than the exports of wheat, corn and linseed. Throughout Latin America, roads and railroads had to be built, harbours improved, and in the southeast, land had to be settled and agricultural methods improved, before the products of Latin America could become of their present importance in world markets.

To-day, each important region of Latin America makes its own distinctive contribution to world trade. From Cuba and Central America come sugar, tropical fruits, spices and tobacco. From Central America, northern Brazil and Argentina come the hardwoods, such as mahogany and quebracho. From the west coast comes the tin of Bolivia and the copper of Bolivia and Peru; from Colombia, Venezuela and Peru, petroleum; from Chile, sodium nitrate, and from the mineral deposits of the Andes come gold, silver, platinum, vanadium and emeralds. Brazil and Colombia, as well as Costa Rica, Honduras, Nicaragua, Panama and Salvador, constitute the source of the world's coffee supply. The pampas of Argentina, Uruguay and Paraguay produce over twenty per cent of the world's export wheat, two-thirds of the total export corn, seventy per cent of the export flaxseed, half of the export beef, and a quarter of the total exports of mutton, wool, hides and skins. These are the products which constitute the main contribution of Latin America to world commerce.

Among Latin American imports, textiles is the most important single item and the best individual market for this type of goods is Argentina, which imports about three-fourths of all the textile products coming into South America. Brazil manufactures nearly ninety per cent of her local textile requirements, and the textile mills of Peru are rapidly increasing their output; but with a few minor exceptions, there is almost no other manufacturing throughout Latin America.

Next in importance to textiles are iron and steel and their products, which include such diverse items as the agricultural machinery for Argentina, Uruguay and Paraguay, mining machinery for the countries of the west coast, and automobiles for all Latin American countries. On the north and west coasts and in Cuba there is a substantial demand for food products, particularly flour, potatoes and fish. Textiles, food products, iron and steel, and their products, petroleum products and coal make up about half the total import requirements of Latin America. These changes in the kind of Latin American imports and exports reflect the corresponding changes in the industries of the territory. Exports are especially significant for it is more true of Latin American republics than of most parts of the world that the economic history of the country is written in the changing character of this division of foreign trade.

DEVELOPMENT OF TRADE BETWEEN CANADA AND LATIN AMERICA.

With the rapid increase that has taken place in the volume and variety of the imports and exports of Canada and Latin America, it is only natural that there has been a steady increase in the volume of trade between the two areas. In 1913 there were only five countries in Latin America which had a trade with Canada amounting to one million dollars a year. A careful analysis shows that almost all the countries in Latin America now have a trade with Canada above that level. The rapid increase in manufacturing in Canada has helped to create a demand for her products in Latin America, for that territory is yet mainly agricultural and buys manufactured goods abroad. In every Latin American country, 50% or more of the imports from Canada are manufactured goods. Peru, Colombia and Cuba buy almost as large a proportion of raw materials, but this is due to their need for wheat, fish and condensed milk.

The recent development in direct communication promises to play an important part in increasing the trade between Canada and Latin America. Although a large part of shipping is carried on over foreign lines, Canada has had her own passenger and freight service to the West Indies and Central America for some years. During 1928, freight service was inaugurated to Rio de Janeiro and Santos in Brazil and to Buenos Aires in Argentina. In May of this year, a second company put on a line of steamships with refrigeration facilities to carry freight between Canada and Argentina, Brazil and Uruguay. These lines all operate from Montreal, Saint John or Halifax. Telegraph and cable facilities are available to all commercial points in Latin America. Mexico and Cuba have telephone service to points in

the United States and the International Telephone and Telegraph Corporation is installing stations in Peru, Chile and Argentina for wireless telephone communication with the United States and Canada within two years.

The most recent means of communication established with Latin America is by way of the aeroplane. In the past three months, Montreal has been connected through New York with every country in the territory by weekly service for both mail and passengers. One line operates through Mexico and Central America to Panama and down the West Coast of South America to Santiago in Chile. A separate service has been operating down the East Coast to Buenos Aires since July, and on August 17 the flight of a plane carrying fifteen persons across the Andes between Argentina and Chile inaugurated a regular passenger service which completes the circle of air lines around the Americas.

With communication facilities between Canada and Latin America rapidly improving and internal developments in each area resulting in a production which requires increasing outlets, it remains necessary for each to improve its knowledge of the other's markets. It has frequently been said that South American retailers know little of Canadian goods. United States and German sales organizations are making good headway in Latin America and Great Britain is awaking to the fact that she must increase her sales efforts if her present well-established trade with that territory is not to suffer. The British Empire Trade Fair, now being arranged for the spring of 1931 in Buenos Aires, is destined to increase the volume of trade between Great Britain and the River Plate countries. Canada is taking advantage of this opportunity to display her products, and has been allotted a separate pavilion with a floor space of nearly 40,000 square feet in one of the choicest locations of the park used for the Exhibition.

Economics in the West.

British Economic and Financial Conditions.

London, 1st October.—The Midland Bank's *Monthly* publishes this month its interesting quarterly graphical survey of British economic and financial conditions. Anyone caring to know the position to-day in England ought to read this review inspired evidently by the Chairman of the Bank, a former Chancellor of the Exchequer. I have no doubt it will repay him the trouble. I shall draw attention here, in this letter, only to the outlook as the reviewer presents it.

It would seem obvious, even without consideration of further facts, that the prospects for British trade in the near future are dependent very largely upon monetary considerations. Other recent developments, however, invest this conclusion with greater assurance. Three months ago, in connection with the graphs then presented, the banking position was analysed at some length. It was pointed out that the rise in bank deposits over the preceding two years had small chance of continuing in the absence of an increase in the supply of bank cash. Attention was directed also to the high level reached by advances which, taken in conjunction with the cash position, seemed to hold out little hope for the extension of a still larger volume of accommodation to reviving trade and industry. It is a disappointing fact that the past quarter has brought no relief from this position. Bank cash, indeed, is on a lower level than a year ago, while advances and deposits would still appear to be as high as they can be on the present cash basis. Remembering, then, that a growing volume of trade requires expanding supplies of credit, are the prospects for an enlargement of the cash basis any brighter than they were three months ago?

In seeking a complete answer to this question it will be generally agreed that recent developments have, in one sense, certainly not given ground for optimism, for gold has flowed out in large quantities and seems unlikely to return for many days. In another sense, however, the events of the past few months hold out considerable promise for the future. It will be seen from the first chart that the Bank of England has almost fully neutralized the gold outflow by increasing its holding of securities. It is true that the total deposits of the Bank, in faithful reflection of the curve of the clearing banks' cash, appear to show a slight downward trend, but the contraction is negligible in comparison with what it would have been if the gold outflow had been allowed to exercise its full classical effect. Had it done so, we should have been forced to accept a drastic measure of deflation. In neutralizing the gold outflow the Bank of England has been continuing the gener

policy regularly pursued since the return to the gold standard. The difference between past occasions and the present, however, is that never since April 1925 has the gold holding fallen so low. It is therefore particularly gratifying to find the policy still maintained.

Although on this account there is food for encouragement in the policy so far pursued by the Bank of England, there still remains the vitally important question whether increased, as distinct from stable, supplies of credit will be made available for future trade expansion. Without additional bank credit it is difficult to see in what way ambitious, publicly encouraged schemes of development, however well conceived and skilfully executed, can prove of more than transitory effect upon the volume of employment and trade. With the proviso fulfilled, on the other hand, such schemes might justify all reasonably optimistic hopes, and Britain might emerge from the process a better equipped, more efficient and—most important of all—intensely active economic entity. It must be frankly admitted, however, that unless some radical change takes place in conditions in other monetary centres—particularly New York—it is difficult to foresee with confidence any material expansion in the volume of credit available for business growth.

THE NEED FOR INDUSTRIAL PEACE.

Up to this point we have omitted from the discussion a most important factor in the present and future business situation. We have said nothing as to the unforeseeable possibilities in the field of industrial relations. Already the quietude which had prevailed ever since the end of 1926 has been broken by a fortunately short-lived stoppage in the cotton industry. This cessation, by reason of the nature of the industry and the conditions ruling within it at the outset, did not have such serious general effects as would have arisen from a stoppage of equal duration in some other branches of economic life. The fact must be faced, however, that difficult negotiations are pending in various vital and basic industries, while on the other hand the truth must be recognized that the business recovery so far achieved has been based largely upon almost complete freedom, maintained for a reasonably long period from strikes and lockouts. Industrial peace is a *sine qua non* of continued trade recovery. Without that the most intelligent and far-seeing monetary policy, the most favourable conditions in the international sphere, and indeed the conjunction of all other conducive factors, can be of no avail. To ensure the presence of this basic condition of recovery it is desirable that forthcoming labour problems should be dealt with, not at the eleventh hour—still less at the thirteenth—but well in advance of the stage at which they become acute. Only thus can a bounteous source of uncertainty and industrial and social losses be kept strictly under control. Only thus can the atmosphere be purified for business to flourish and the community to thrive.

MR. J. H. THOMAS ON CAPITAL AND LABOUR.

Major G. L. Berry, the President of the Printing Pressmen's and Assistants' Union of North America, was a guest at a luncheon given at the May Fair Hotel by the Newspaper Proprietors' Association, and his health was proposed by Mr. J. H. Thomas, Lord Privy Seal. Mr. Thomas said that he was delighted to welcome Major Berry, because there was a Labour Leader from the other side being entertained by the capitalists of this side. It was an indication that we were coming to a recognition of the fact that, no matter what the industry, no matter what the difficulty, there were two factors—Capital and Labour—which, if they liked to pull against each other, if they liked to fight each other, they could do it, but there was only one end to that policy, and that was disaster. "Both sides," said Mr. Thomas, "should sit down and realize that they are both essential to the prosperity, the development and the interests of the country and both should realize that each side may have its point of view, that both points of view must be subordinated in the end to the common good of the community that is greater than all."

STATE FARMS IN RUSSIA.

Probably the most important fundamental change which the communists are attempting to bring about in Russia now is the reconstruction of agriculture on a collectivist basis. Two recent developments have tended to strengthen the drive for agrarian socialization. One is the satisfactory outlook for the coming harvest, which gives promise of removing the strained food situation which prevailed during the past winter and spring. The other is the success of the strenuous spring planting campaign which was carried out with great energy by the Party and State organizations.

Although the sown acreage last autumn indicated a decrease of some three per cent as compared with the preceding year, the extension of the spring-planted area gave a total gain for the year of six per cent and the Communist Party leadership is inclined to interpret this fact as a proof that the masses of the peasantry are not dissatisfied with the new policy, despite the

obvious discontent of the "kulaks", or more well-to-do peasants which, during the last year, has found expression in many murders and other acts of violence against village communists and Soviet workers, says the Moscow correspondent of the *Observer*.

The communist agrarian policy has both constructive and repressive aspects. On the constructive side one may note the investment of large sums of money in the development of huge State farms, of which the largest, the so-called "Giant" in the North Caucasus steppe country, near Rostov, already boasts an area of a hundred and fifty thousand acres, the encouragement of peasant collective group farming, the increased use of tractors in farming, and the strenuous efforts to provide the villages with more agricultural machinery and fertilizer.

The repressive edge of the policy is turned against the kulaks who are heavily taxed, systematically given the worst land and practically compelled to sell their surplus grain to the State organs at fixed prices which are far below the very high prices which have long prevailed on the free market, due to the shortage of grain and flour. The use of compulsion to obtain the peasants' surplus grain, which was abandoned with the introduction of the New Economy Policy in 1921, was revived when the systematic withholding of grain by the peasants in winter of 1927-1928 caused the application of so-called "extraordinary measures" to extract it from the holders. In July 1928, these measures were abolished according to a decision of the Communist Party Central Committee; but last spring they were revived, at least, so far as the kulaks were concerned.

It is announced that "measures of social pursuation," which may be interpreted, as meaning the forcing of delivery of grain by the richer peasants on pain of fines and confiscation of property, will be continued during the coming autumn since the State organs are anxious to take advantage of the favourable harvest and build up as large a reserve of grain as possible before the end of the year.

The communists are attempting to storm the fortress of peasant individualism by bringing up a constant stream of heavy artillery in the form of tractors which they distribute, not to individual peasants, but among peasant co-operative groups and State farms. With the outcome of this experiment are bound up many things in the immediate future of Russia: the food supply of the cities, for instance, the dimensions of foreign trade, the practicability of the projected large scale expansion of industry

Cheap Road Construction.

A cheap form of road construction has been suggested by Mr. Harold Bradley, who says that the greatest mileage of our roads, carrying fast and heavy traffic, have a good surface merely because of the quality of the surfacing, and that a good, travelling surface, by which expression he means a surface that it is good to travel upon, too often disguises the real facts. Beneath the smooth, tarred surface destructive agencies are at a work in the form of internal attrition which will eventually and, probably suddenly, when assisted by other forces, such as frost or the passages of extra-heavy vehicles, cause the crust of broken metal to disintegrate and become incapable of carrying even the normal traffic imposed upon it.

He deals, rather severely, with some of the present methods of road construction and says a form of construction which may be termed the intermediate type between waterbound and tar-macadam is that known as the semi-grout process. This method is comparatively inexpensive and costs very little more than a mud or waterbound road though its advantages are considerable. To begin with, it is a scientific method of road construction and although the initial cost of making the road is slightly greater than that of making a waterbound macadum road, ultimately it is more economical and it is, of course, ultimate economy that counts.

A semi-grouted road requires careful grading of the aggregate, useful proportions being 60 per cent of 2 in., 30 per cent of $1\frac{1}{2}$ in. and 10 per cent of $\frac{3}{4}$ in. stone. The grading of the stone will, however, depend upon its hardness; a soft material will crush under the roller and so upset the balance. In any event it is economy to purchase a hard-wearing stone at the outset, for it should not be forgotten that, provided the construction method is good, the cost of maintenance depends largely on the quality of the stone used. A soft or brittle material is always liable after the road is open to fracture into smaller units which become flicked out of the bed by traffic, leaving an incipient pot-hole behind.

Cement-bound roads, either made by the slurry method or the sandwich system, are quite as simple to construct as the method just described and such types of construction are bound to become more popular as their advantages become better known. Cement-bound roads are particularly adapted to steep gradients subject to what is technically termed "scour". The aggregate stands up boldly as the road

wears and affords an excellent footing for all horsed traffic and is skid proof, no matter what type of rubber tyres are used.

With cement roads a hard wearing stone repays any extra expenditure as, owing to the low rate of attrition, little wear takes place. It is quite unnecessary to seal the surface to render it waterproof as it would be were a soft aggregate and ordinary binding materials used. It appears that either of the methods of road construction advocated will give an intermediate type of road suitable for all, but really heavy traffic, and at remarkably low cost. When it is realized that the disruption of a water-bound road is due 85 per cent to internal attrition, it is evident that any satisfactory method of eliminating that possesses advantages and the necessity for adopting a scientific method of road-making will be appreciated. If we relegate waterbound roads to the scrapheap to which they should already have gone, and utilize the best of our stone, our road maintenance costs will not reach the alarming figure at which they stand in some places to-day.

Indian Economic Notes.

Distribution of India's Mineral Wealth.

Giving an estimate of the various minerals existing in India suitable for the manufacture of chemicals, Sir Edwin Pascoe, Director of the Geological Survey of India, in a comprehensive note to the Tariff Board, stated that there were adequate supplies of magnesite, common salt, potassium nitrate, bauxite, chromite, manganese ore, gypsum, limestone and metallic sulphides. The minerals of which supplies were inadequate were pyrites, sodium nitrate and potassium chloride. Phosphates were obtainable only in moderate quantities. Manganese is found in adequate quantities only in Salem (Madras Presidency), the annual production during the last four years varying from 19,638 tons to 30,461 tons. Magnesium salts could also be obtained from sea water. Common salt occurs in large quantities in the form of rock salt in the Salt Range of the Punjab, and also in Kohat and Mandi State. It is also obtainable from the Sambhar Lake, Rajputana, and from sea water round the Indian coast. The total production of salt during the last four years ranged from 1,295,144 tons in 1926 to 1,638,749 tons in 1926.

Potassium nitrate or saltpetre is one of the principal mineral products of India. It is extracted mainly from the alluvial soil near village sites in the Punjab, the United Provinces, and Bihar and Orissa. The total exports during the past four years ranged from 98,830 cwt. in 1926 to 167,700 cwt. in 1924. Bauxite is found in workable quantities in Kolhapur State, Kaira District, Jubbulpore, Balaghat and Ranchi District, Kalahandi State and the Palni Hills. The total production during the past four years ranged from 4,310 tons in 1927 to 23,223 tons in 1924. Chromite is found in Baluchistan, Mysore and Singhbhum. The total output during the past four years ranged from 33,282 tons in 1926 to 57,207 tons in 1927. Manganese ore is found in many parts of India. The total production during the past four years ranged from 803,006 tons in 1924 to 1,129,353 tons in 1927. India is the greatest manganese ore-producer in the world, the Central Provinces being the most important manganese area. Gypsum is found in Bikaner, Jodhpur and in Jhelum district. The production during the past four years has been steady at 34,000 to 38,000 tons. Limestone is found in Assam, Bihar and Orissa, Burma, the C. P. and the Punjab. The total production during the past four years ranged from 1,851,455 tons in 1924 to 3,249,378 tons in 1927. Sulphides are worked on a large scale for their metal contents in Northern Shan States at Bawdwin where mixed sulphide ore containing lead, copper, silver and zinc is mined. The zinc concentrates are exported for treatment. The production of lead ore containing lead, zinc and silver ranged during the past four years from 310,286 tons in 1924 to 450,777 tons in 1927; and the production of zinc concentrates obtained from the above ranged from 18,650 tons in 1924 to 58,286 tons in 1927. Two occurrences of phosphates of possible importance have been located in Trichinopoly and Singhbhum districts. The available amount of phosphatic nodules in Trichinopoly District has been estimated at 18,000,000 tons, but as these nodules are sparsely distributed and contain carbonate, no success has yet been made in manufacturing superphosphates.

A Novel Scheme for the Progress of Health.

The Government of Mysore have approved of a novel scheme for measuring the progress of health activities in the State. This scheme is based on the American model and consists in the maintenance of what is called an "apprisal" form in all cities of over 50,000 inhabitants.

The Central Health authority at each inspection of the areas concerned allots the points scored by each area on every item of health work and can definitely estimate, from it, the progress made by the Health Officers since the previous inspection. When these scores come to be published, it is expected that healthy rivalry will be set up amongst the cities for improving the health condition in their respective areas. The whole of the health activity of an area is purposed to be examined from nine points of view each being allotted 100 points as the highest possible score:—Administration (100 points) vital statistics (100 points), communicable disease control (125), maternal and infant hygiene (100), school hygiene (125), food control (100), sanitary engineering (150), laboratory (100) and health education (100): total 1,000 points. The Sanitary Commissioner in Mysore, in strongly recommending the adoption of this scheme of health inspection, suggests that the results obtained from it might be published as a Public Health Bulletin with a suitable preface in course of time. The scheme is a good and promising one and we are glad to note Government have approved of its adoption.

Named Trains in Japan.

We are informed by a correspondent in Japan, writes the *Railway Gazette*, that it is proposed to adopt names for some of the principal mail and express trains on the Japanese Government Railways, with the idea that, to quote the *Japan Advertiser*, they will "give more personality to the trains," and be "more to the taste of the times". We gather that names which appear to us to be of a fancy type are likely to be used. Thus, it is suggested that "first and second-class express trains and the ordinary first and second-class trains will be called by such names as 'Tsubame', or the *Swallow*; 'Sakura', or the *Cherry*; '*Fuji*', or Mt. Fuji, instead of train No. 1, No. 2, or whatever other number such train may have at present." Other suggestions are: "Hikari", or Light; "Kaze", or Wind; "Hibari" or Sparrow; and the like. The final decision is, however, to be put to a general vote of railway officials. The *Japan Advertiser* further states that the authorities are said to be desirous of having such names in couplets as far as possible, such as the plum and cherry or the pine and bamboo, and others of a similar nature. "The adoption of this plan in the naming of trains by such names as the 'Swallow Train', the 'Bamboo Train' or the 'Pine Train' is thought to be a great novelty as well as to be democratic." Special names may also be adopted for trains concerned with the traffic of particular localities. It was suggested that all trains should be so named, but it was decided that for the time being only certain trains should be thus designated though the practice may be extended. It is proposed to place the name boards prominently at the rear of the "designation car" of each train.

Agricultural Societies in Burma.

A resolution by the Government of Burma on the report of the Co-operation Committee which was presided over by Mr. Calvert, I.C.S., says that the present condition of the movement is indicated by the fact that out of 3,800 primary agricultural societies no less than 1,400 were in liquidation. The opinions and recommendations made by the Committee have been generally accepted by the Government of Burma, the general effect of the recommendations being to adopt a system closely modelled on that followed in the Punjab. The resolution also says that Government have also carefully examined the suggestion made in the report to introduce legislation to create an agricultural charge on the model of the English Agricultural Credits Act of 1898 in favour of banks.

Exports of Burma Hides and Skins.

According to the Report on the Maritime Trade of Burma for the official year 1928-29, the total exports of hides and skins, raw (excluding cuttings of hides, etc.), from Burma amounted to 4,958 tons valued at Rs. 41.96 lakhs against 4,636 tons valued at Rs. 34.22 lakhs in 1927-28. There was thus an improvement in the total exports but the United Kingdom's offtake of buffalo hides was reduced from 297 to 185 tons and of cow hides from 1,377 to 343 tons. Shipments to Egypt advanced considerably while Germany increased her requirements of buffalo hides from 45 to 77 tons and of cow hides from 716 to 931 tons. Total shipments of buffalo hides were 1,197 tons as against 1,157 tons and cow hides 3,730 tons as against 3,473 tons.

N. G. S. Railway Purchase.

An interesting statement is issued by the Board of the Nizam's Guaranteed State Railways, writes the City Editor of *The Times* in its issue of September 21. The Government of H. E. H. the Nizam have, he says, an option to purchase the company's broad and metre gauge lines on January 31, 1934, on giving 12 months' notice. The directors now intimate that although no definite proposal has been made they have reason to believe that the Government are

anxious to anticipate the purchase date and are not unlikely to make an offer to buy up the company's lines and take them over on March 31 next—*i.e.*, at the end of the company's current financial year. Stockholders will, of course, be consulted before a final decision is reached in the event of an offer being made. The company has enjoyed considerable prosperity of late years. For the year ended March 31 last the final dividend is to be 8 per cent, together with a bonus of 4 per cent, making 12 per cent in all for the year. For 1927-28 the total distribution was at the same rate, but 2 per cent was then in the form of a special payment on account of a refund of surcharge imposed on certain goods traffic in 1921-22. The distribution on the ordinary stock has steadily risen since 1921-22 when it was 7 per cent.

DEVELOPMENT OF OKHA PORT.

The Administration Report of the Baroda State for the year 1927-28 states that, as in the previous year, the energies of the Department were devoted to the development of Port Okha. In the years 1925-26 preliminary arrangements such as steamer service, port equipment, canvassing of business, fixing up of the constitution of the Harbour Board, provision of cargo handling facilities, buoying of channels, etc., were made. For the smooth working of the Port and to avoid any delays consequent upon the duel control, the administration of the Harbour Engineering Branch has been transferred to the Harbour Board from the Railways Department during the year under report. This will now co-ordinate the activities of Harbour and Port Branches in the development of the Okha Port. As a result of the Port thus being equipped with proper facilities, both export and import trade has increased and the total cargo handled during the year was more than three times than that of the total cargo handled in the preceding year.

EXPORTS OF BURMA LAC.

According to the Report on the Maritime Trade of Burma for the official year 1928-29, exports of lac to foreign countries rose from 4,032 cwts. valued at Rs. 3.79 lakhs to 13,774 cwts. valued at Rs. 11.88 lakhs. As in the previous year, the bulk was shipped to the United States of America. Exports to India totalled 111,897 cwts. valued at Rs. 51.41 lakhs as against 49,125 cwts. valued at Rs 24.78 lakhs in the previous year and 88,971 cwts. valued at Rs. 43.10 lakhs in 1926–27. These consisted chiefly of sticklac and were shipped exclusively to Calcutta.

Topics in the Journals.

Western Education.

The Deccan Education Society has done a great work for the promotion of culture in Western India. Its members regard teaching as a vocation rather than a profession, and the life members are pledged to 20 years of teaching on a mere pittance. The best known institution of the society is the Fergusson College at Poona, where for many years before he became the foremost Indian patriot of his day G. K. Gokhale deeply impressed his pupils by a selfless and almost ascetic simplicity of life. A member of the society, Mr. G. O. Bhate, Principal of the Willingdon College, Sangli, is now in this country, says the *Times Educational Supplement*, engaged in research for his coming history of modern Marathi literature. He has published books in Marathi on economics, sociology, philosophy and the fine arts, and on Carlyle; and has lately collected his "Essays and Speeches" in English in a small volume dedicated to his pupils.

"The views of the scholar on the western education in which he has been engaged at the Fergusson College, and in later years at the Willingdon College, Sangli, for more than a generation merit close attention. He holds that with all the defects of the application, it has in many respects improved the Indian character. It will go on doing so, in his judgment, if it is taken in the proper spirit. The average educated Indian has not the narrowing conception of religion which held the men of old type who sought to attain the religious ideal in isolation and by mechanical observance of rites and ceremonies. The average educated Indian, Principal Bhate says, does not believe religion to be a mechanical thing. He sees that there is a close connection between conduct and religion. He recognizes that the lower classes as well as the country to which he belongs have claims upon him, and that it is every man's duty to do something in his humble way to advance the good of his country. On the other hand, the Indian of the old type had a better disciplined will than his educated successor. He never yielded to public censure, he was never afraid of carrying out what he conceived to be his duty, however limited that conception was."

AVERSION TO MANUAL LABOUR.

On the less satisfactory side of the effects of Western education, Principal Bhate points out that from the very first, though it was almost exclusively literary, it was made a passport to public service. By association of ideas liberal education and State service became indissolubly connected in the public mind. The system led, he considers, to the accentuation of a false sense of superiority and dignity and aversion to manual labour and physical exertions have come to be looked down upon, however remunerative they may be. Principal Bhate would not suggest, of course, that this idea has not been deeply rooted in the Hindu mind

from antiquity. The real point of his criticism is, presumably, that Western education has done far less than might have reasonably been expected to dissipate the conception. It is one which accounts, in no small measure, for widespread middle class unemployment.

Some of the arguments lately used in London by Professor Kharve against the continuance of the system which makes English the medium of higher instruction have the support of his contemporary Marathi educationist, who holds the system to be unnatural and opposed to all psychological principles. He is well aware, however, of the strength of public opinion in its favour. He expresses regret that in this matter custom has blunted sensibility. The system has prevailed for nearly a century and people are not sensible of the hardship it imposes upon tender and young minds. Principal Bhate recognizes that the system was less inappropriate in the early days when there were a select body of teachers and a select set of students and when schools and colleges were few. Even now in the large cities where, on account of the cosmopolitan character of the people, there is constant necessity to resort to English as a means of communication of ideas, the system does not produce much evil or hardship "but to make every student in every part of the country learn everything through a foreign tongue is a hard lot indeed." As a practical educationist Principal Bhate must be aware that any sharp division of system as between the large towns of the smaller college centres might accentuate the serious problem of student overcrowding in Calcutta, Bombay, Madras and other large cities.

The constructive suggestion made is that all secondary education, like primary instruction, should be carried on through the mother-tongue of the pupil. The Indian vernaculars are sufficiently advanced in the judgment of this authority, for this change to be quite easy and practicable. Since the vast majority of secondary students do not proceed to higher education, he would supersede the present unwieldy school-leaving examination in the Bombay Presidency. He thinks five linguistic groups might be devised and the examinations be conducted by divisional boards. This test, with English as the necessary second language, should be recognized both by Governments (for purpose of appointments to the public service) and by the university. Applicants for admission to colleges might be required to show, further, their knowledge of English by a composition paper. Such views are gaining ground. It may be recalled that the Bombay Committee on University Reform recommended that the medium of instruction in secondary schools should, in general, be the vernacular, but with English a compulsory subject of school study.

Civil Flying.

Germany leads the world in civil aviation with her nearest rivals, France and Italy, very far behind. Britain, to the perplexity of all other nations, occupies about tenth place. It may be even worse than that; I am not very interested in decimals, says Sidney Taylor in the *Sunday Times*.

Passing through Germany, a traveller has his eyes opened. The famous Tempelhofer Feld, Berlin, is more like Euston or the Garedu Nord than an aerodrome. He can fly from here to London, Paris, Brussels, Prague, Rome, Vienna, Belgrade, Warsaw, Moscow and Oslo. His wonderment increases as he discovers that small towns, the names of which he had scarcely heard before, are linked up with a regular service of machines as numerous as sparrows. If the traveller is a business man in rather a large way, with hours meaning pounds to him, it is soon apparent that the aeroplane is his best means of transport. Even the two or three hours in the air are not wasted. He can work industriously with his papers, prepare a speech for a board meeting, or—what I personally have never found possible in a train—write letters.

The traveller reaches France. By this time he is fond of flying. But he finds an air service devoted to taking pleasure-seekers to the Riviera. The big industrial centres with which he is more concerned are connected only by long and tedious railway journeys.

Eventually he crosses the Channel to Croydon. If he is a foreigner he may imagine the joys of flying to Manchester, Birmingham or Glasgow lie before him. If he is an Englishman he will know that such rash desires involve hiring a special aeroplane or buying one outright. If he is not stupid—which is inconsistent with his being a big business man—it will not take him long to sum up commercial aviation in England. There isn't any. The only flying in England takes you *out* of the country.

This makes depressing reading for the average Englishman, who imagines, until told differently, preferably with sledge-hammer blows, that he leads the world in flying as in many other things. To the German it has always seemed strange that the breed which has produced Sir Alan Cobham, Bert Hinkler and Lieutenant Kinkead should be in the background of commercial flying.

We have Men and Machines.

We have the men and we have the machines. Two Englishmen were the first to cross the Atlantic—as long ago as 1923. Our losses in this perilous flying last year were greater than anybody else's, yet undaunted by the pathetic history made by Captain Hinchliffe and others, Captain F. T. Courtney hopes to set off in a few days and Captain R. H. Macintosh is to make a start later in the summer. Whether they succeed or not, there are many more who will follow them.

The Schneider Cup victory was a triumph of British-made machinery. The 'Silver Wing' Argosy 'planes which are flown between London and Paris are a poem in grace and outline, and in the military sphere I was recently astonished to see in Southampton Water, from the sunlit sports deck of the Cunarder Aquitania, a dozen or so beautiful Air Force machines alighting on and taking off from the foam-flecked waves as nimbly as seagulls.

As to world records, whatever their value may be, we have machines now under construction which make the hopes of other nations indeed precarious. One is designed to travel 5,000 miles without a stop; another to climb at nearly eight miles above the earth, a third to reach a flying speed of 380 miles an hour.

In view of this mass of fact about men and machines which one could go on quoting indefinitely, how can we explain the paradox of no commercial aviation in England? Is it lethargy? Is it apathy? Or does it mean that we have greater farsightedness than is suspected?

Reasons for Backwardness.

The truth is that there are several reasons very tangible and very curious. Most important is the preference of the Air Ministry for an "Empire chain" of airways. The next is the doubt whether much time could be saved (and money made) by flying in England. Then come the lack of aerodromes

conveniently near big cities and the smallness of the Government subsidy to the Imperial Airways.

Sir Alan Cobham, our best airman, has been employed by the Government for flying round Africa and reporting on the possibilities of regular air routes. An air base has been formed at Singapore. Air-Marshal Sir John Salmond, Commander-in-Chief of Britain's air defence, is to go to Australia to plan the aerial defence of that country. The air lines now working in British possessions are almost too numerous to mention, but at home there is nothingness. Sir Sefton Brancker, the Director of Civil Aviation, knows what flying is like in Germany, but, like Sir Samuel Hoare, the Secretary of State for Air, he seems to *dream of getting to Australia* in 180 hours and to Cape Town in 108. They are *very laudable dreams, but the* Liverpool, Newcastle and Edinburgh business man does not always want to *fly to Australia.*

NEGLECTED AERODROMES.

The aerodromes in the provinces are a morass, a *dead sea of apathy and neglect.* The nearest landing places to Liverpool, Manchester and Birmingham are so far out of the cities that by the time the motor-car part of the journey has been completed, whatever time has been saved by the aeroplanes has been dissipated by the rides through country lanes. One would think that the lesson of this would be that all new town-planning schemes must include an aerodrome in the heart of the city; but no model boroughs are being laid out without any provision for the early needs of aviation, and what would only cost thousands of pounds to-day will cost the country millions to-morrow.

Then the Imperial Airways is not in the happy position of the Deutsche Luft Hansa, which has also the *co-operation of every large town in the making of local* aerodromes. The Imperial Airways receives from *the Government a subsidy of only £1,000,000* spread over ten years. It about acts up to this subsidy and no more. Anyhow, it is not surprising that in 2½ years it only carries as many passengers (44,000) as the German company carries regularly in three months

BRIGHT SPOTS OF THE FUTURE.

There are some bright spots, however, on England's *flying horizon* due to young *men without money* rather than to old men with it. I refer to the dozen or *so subsidized flying clubs, splendid examples of which* are the Cinque Ports Flying Club, the Hampshire Aeroplane Club and the Lancashire Aero Club. One cannot exactly say the Government is generous to them or squanders a great amount of money, at any rate in this direction, but there is a subsidy according to results. This means that for every pilot trained the club receives £50, with an additional 30*s.* for every hour flown.

In offering to teach all comers to fly—the complete tuition costs altogether £18—such clubs as the Cinque Ports have made a discovery that the Air Ministry has never been able to make—namely, that the public is tremendously interested in flying! At a recent air day at Lympne 2,525 people were given flights at 5*s.* a *time,* and 1,500 had to be *refused.* And there were 1,200 motor-cars and motor-cycles on the ground!

Among those who are clamouring to learn to fly are many young women, some of them defying their *fathers, who believe aeroplanes to be dangerous.*

This brings me to my final point. Perhaps commercial aviation in England *will* be saved, *after all,* by the five million young people who benefit under some recent notorious legislation.

Books in Brief.

Short Reviews of Recent Books.

The Economics of Welfare.

By A. C. Pigou, M.A., Professor of Political Economy in the University of Cambridge. *Messrs. Macmillan* & Co., St. Martin's Street, London. Price 30*sh.* net.

We welcome this, the third edition, within nine years of the previous one, of Professor Pigou's well-known work. In reviewing the last edition, issued in 1924, we said it would have a wide vogue in this country as elsewhere. Little, indeed, is required from us to commend it to students and teachers alike of economics. Nor is it at all necessary to add that lay readers will find in it almost every aspect of economics dealt with in a suggestive and comprehensive manner. Besides many minor alterations *in the phraseology of the* text, Professor Pigou has made "some improvements in analysis and exposition." That is *the modest way in which he puts* the trouble he has been at in making this edition of his work not merely more scholarly *but also substantially* a better one. We mean no exaggeration. He has brought up-to-date facts and laws—always a difficult matter to the text-writer. In these days especially both facts and legislative enactments soon get obsolete and no author can neglect to note the changes, if he desires to keep his book suit the times. While some chapters have been re-written, many others have been added—one of these being subsidies to wages, which is enough to indicate how far Professor Pigou has tried to keep abreast of the movements of to-day. At the same time, certain parts of the last edition have been omitted, *being incorporated with the other works of the author.* An uncommon feature of Professor Pigou's work is its non-technical character, so that *it is just the* publication for lay readers. The art of writing, always difficult, *here,* in *Professor Pigou's* hands, becomes more artistic still when it is made to yield itself readily for the treatment of topics more or less overladen with phraseology of a kind that is little understood beyond a select circle of specialized readers. His presentation of the science of economics—under the inviting title of the "Economics of Welfare"—in language at once lucid and expository in style, has something of the charm that pertains to literature. This, however, should not be taken to mean that the work is other than what Professor Pigou describes it as a "severe *one*". This "*severity*" is due less to his style of writing than to the nature of the subject which he has *had to handle.* We would, *before we conclude,* take the liberty of quoting the following few sentences which appear in the Author's *Preface* to his work as nothing we could ourselves write could enable us to call

pointed attention to the need there is in this country for a careful study of economics :—" The complicated analyses which economists endeavour to carry through are not mere gymnastic. They are instruments for the bettering of human life. The misery and squalor that surround us, the injurious luxury of some wealthy families, the terrible uncertainty overshadowing many families of the poor—these are evils too plain to be ignored. By the knowledge that our science seeks it is possible that they may be restrained. Out of the darkness light! *To search for it is the task, to find it perhaps the prize, which the " dismal science of Political Economy " offers to those who face its discipline."* *That is admirably put and is quite a good sample of the* feeling suggestive style of Professor Pigou throughout this work.

A word more may be added to point to a minor misprint, more especially as we think that in a standard work of this kind there should be none such. At p. 15, in f. n. 5, we have " Muckerjee ", which should be " Mukherjee ; the same spelling of the name is repeated in the *Index, p. 825. The spelling should*, we think, be rectified.

Malabar and the Portuguese.

By K. M. Panikkar, B.A. (*Oxon.*). Bar-at-Law, some time Professor of Modern History, Muslim University, Aligarh. Messrs. Taraporevala Sons & Co., Kitab Mahal, Hornby Road, Bombay. Price Rs. 6.

Mr. Panikkar has written a study of Portuguese relations with India which bids fair to revolutionize the hitherto received notions about them. The story as unfolded by him extends to fourteen chapters and is based on authoritative Indian (mainly Malayalam) and Portuguese sources. A work of such a kind written by a deft hand, sure of its facts and not *lacking in originality of thought and presentation*, cannot but prove stimulating even to a lay reader. To the historical scholar, it is quite an intellectual treat. *Among the settled facts of popular history unsettled* by Mr. Panikkar may be noted a few. He makes it plain that the Portuguese never had an "Empire" in India in the accepted sense of the term. Their "India" was a misnomer, being confined to but a few military outposts on the Western Coast of the vast peninsula. He suggests—on fair grounds which, however, are stated, in what appear to us, in rather uncompromising terms—that Vasco da Gama was not the great man he is usually represented to be in the current books of History. "He was", Mr. Panikkar says, "neither a *great explorer nor navigator. His glory is based entirely* on the historical results that followed for which he was hardly responsible." His point is that Vasco da Gama "was *not sailing in unchartered seas* like Columbus or Magellan but along recognized routes to a country which was situated at a known distance from the African Coast." He had, besides, the help of competent Arab pilots supplied to him by the King of Melinde and the conception even of the voyage to India was not his but that of Dom Joao. Mr. Panikkar, however, allows that the discovery of the Cape route *killed the* ancient Venetian and Egyptian monopoly of the trade with India and opened up India to Europe. Mr. Panikkar, again, restores Albuquerque to *his rightful position as a great administrator*. His picture of Xavier is in striking contrast with the barbarous bigotry of the rest of the Portuguese priesthood. Nobody so far has endeavoured to justify *the* wanton cruelties of the Portuguese on the people of this country in the name of religion and Mr. Panikkar is no exception to the rule. He, however, suggests that their attitude has to be judged from the tendencies of the times to which they belonged. The Portuguese in the 16th century were neither civilized nor politically organized. If that was their position in their own homelands, *little could be expected of them* in a foreign country where every one was practically free to act as he liked—even write to the King direct against *the Governor-General.* Mr. Panikkar draws pointed attention to the absence of racialism in the Portuguese, which resulted in two noteworthy consequences. *One of these was mixed marriages* and another was the utilization of the local people as a means to build their own power in this country. In *the latter, the* Portuguese appear to have anticipated the French statesman, Dupleix.

Though the Portuguese failed to find an Empire *or stabilize their power in India, or culturally affect* India, they effectually controlled for over a century and a half the sea route to India and profited themselves by it. They also profited India in an *economic* sense by adding to its commercial products and creating an European market for its indigenous products. The output of pepper and ginger grew enormously as the result of European demand for them and their cultivation in Malabar rose by leaps and bounds.

What we have said above ought to indicate the value of Mr. Panikkar's book. It is impossible to go into more details here but it ought to be pointed out that Mr. Panikkar has taken considerable pains to sketch the fight put up by the Zamorin against successive Portuguese generals. The fall of the Kunjalis, the Zamorin's admirals is a most pathetic one. Though their ingratitude towards their old masters seems *inexcusable, there is hardly any doubt that they served* successive Zamorins faithfully and dutifully. But for them the Zamorin would have fallen an easy prey to *the Portuguese and shared the fate of contemporary* Cochin kings. The Portuguese advent destroyed, however, all chance of the Zamorin attaining to the hegemony of the West Coast. There are many chapters of interest in this book—Portuguese religious policy, their political policy and the causes of their fall, etc.—to which we could only invite the *readers'* attention. Mr. Panikkar, as a careful student, presents both a critical and judicial estimate of Portuguese doings in India. Why and how they chose to fix themselves in Goa, still their chief stronghold in India, is made plain by him. *He has*, however, failed to stress the enormous traffic they controlled in horses and the influence they thus continued to wield in the *Vijayanagar Empire down to the end of the 16th* century. This part of the story is told by Mr. Robert Sewell in his *A Forgotten Empire* to which there is *no reference* in this book. When this traffic ceased, their power also languished. The fall of the Vijayanagar Empire meant the end of the Portuguese as well. The story of their connection with Vijayanagar shows that as against a well organized and well knit kingdom they were wholly powerless. Their success on the West Coast was due to the differences between the princelings there whom they openly played off one against the other and their remaining mere traders and no more in the Vijayanagar Empire was due to the latter being a powerful and well administered area, *ennity with which would have meant ruin to* themselves. The moral is obvious and it is enforced by Sir Richard Temple in the sympathetic *Foreword* he writes to the work. Mr. Panikkar has done a piece of real service to historical scholarship by bringing out this work and we await, with considerable interest, his promised work on *Malabar and the Dutch*.

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University Tuition Charges.

By The Editor.

The raising of the tuition charges by the Mysore University has given rise to considerable public criticism. It is a question if the increase is not, considering the economic position of the classes seeking University education, relatively high. It is of interest to note, in this connection, the practice prevailing in the Universities of the West. State Universities in the United States, almost invariably, have no tuition fees at all, or else make only small nominal charges. But with private institutions and endowed colleges, the custom is far different. Thus Amherst charges $300; Yale, Cornell and Brown, $ 350; Harward, Dartmouth, Williams, Wesleyan, John Hopkins, Lafayette, Lehigh, Bryn Mawr, Smith, Vassar, Wellesley and Swarthmore, $400; while at Princeton the fee charged is $450. The question may be asked how is it possible for American students to pay such heavy charges which average from Rs. 80 to 110 per mensem? Apart from the higher earning capacity of the people in the United States, which makes the payment of higher fees possible, there is this fact to remember. The endowments are so many that most of the students get back, in the shape of studentships, what they pay as tuition fees. A recent estimate shows that, up to 1923, more than $71,000,000 had been given away in private bequests to State colleges and universities in America. That is sober fact as it is vouched for by a University Journal published in America (see *Old Oregon* for January 1929, page 8). That which has come as gifts to such colleges and universities during the past five years can only be surmised. What is the significance of this private endowment of State colleges? Why is it being done? Why not let the State taxes and legislative appropriation alone care for the educational equipment needed? Does not private support retard State support? Answers to questions of this kind were, in part, provided by the head of a Western University in America. He said:—

"It is coming to be an accepted corollary of public education that State support does not necessarily mean the absence of private support, and that institutions which are drawing revenues running into millions of dollars from the public may, nevertheless, seek additional funds from private sources. Indeed, State University executives are coming to the conclusion that legislative appropriation will always lag behind actual needs, and that the only solution of the State University financial problem is the appeal for additional support from those public-spirited citizens who are interested in the progress of education."

The truth of the above statements is fully borne out by the fact that there are to-day, on many State College campuses throughout the United States, splendid buildings, such as dormitories, lecture halls, laboratories, physical education buildings, libraries and hospitals: there are student loan funds, fellowships and professorships and other similar forms of gifts. All these have been made possible only by the aid of public-spirited citizens, who have become interested in providing that which, either through constitutional prohibitions or tax limits, legislative bodies were unable to provide. One may turn the pages of almost any American daily newspaper and read in it of munificent gifts made to this or that institution of learning of which Harward, Dartmouth, Yale and Princeton and scores of smaller colleges and universities are examples. Perhaps the University of Michigan is one of the most outstanding instances in which a State institution which has been materially aided in the great services it is rendering the State of Michigan and th

American nation by gifts from friends of University education. These gifts, of which there are reported to be literally hundreds, range from a few dollars to more than a million, but all of them—according to the *Old Oregon*—"represent the conviction of the donors that a State institution is a worth-while medium through which to contribute to the betterment of the average American youth and civilization." A recent financial report of the University of Michigan shows a total for all trust funds—for such purposes as professorships, student loan funds, publication funds and the like—amounting to $807,861.59. Into this sum, made up of large and small gifts, *many of the University campus buildings to the total value of $5,000,000 have been donated, it is added, by its friends.* The University of California is another example of what the generosity of interested individuals has done for a State University. It would appear that more than $11,500,000 have been donated to that institution by private citizens *for various purposes, and this figure includes, it is specially added, only those gifts which were in excess of $50,000!* Similarly, those interested in public education in the south-western part of the United States, have favoured the University of Texas. For buildings alone, this State University has been, it is mentioned, the recipient of over $2,650,000 in addition to one of the largest gifts ever presented by an individual to a public institution of learning, one estimated to be in excess of $12,000,000 'to maintain, to enlarge and further the efficiency' of a hospital attached to 'the medical branch of the University'.

Such private benefaction, as has been mentioned above, has to be commended. More, it has to be emulated. In our own University, during the year 1927-1928, the income from endowments was only Rs. 15,277, while that for 1928-29 is estimated to be even less, only Rs. 12,603!

Then, again, in Australia education is largely free up to 21. In the University of Western Australia it is free from the Kindergarten to the University. It is well known that in France, *part of higher University education is free. Thus, in Paris, there is a large institution for* free higher instruction in Political Science, the *Ecole des Sciences Politiques* and also one for the study of International Law, the *Institut des Hautes Etudes Internationales.* In Italy there are the well-known Free Universities and Free Higher Institutes. Among these are those at Camerino, Ferrara, Milano-Sacro Cuore and Urbino, some of them dating from the 14th century and being responsible for the University training and education of 2,000 pupils. In Poland, all education is free, the Universities at Warsaw, Cracow, Lword, Posen, Wilno and Lublin charging no fees. Of course, British Universities stand on a different footing. University education in England has always been for those who could afford it. But this *idea—essentially British—has been largely exploded within the past fifty years.* Higher education has been democratized and the newer Universities afford ample opportunities for aspiring students. Even in England the cost of education is really decreased by the scholarships available. In India, we have modelled ourselves largely on the British *system, which is not really suited to this vast country. If primary education is to progress,* University education cannot be neglected. Some people think that it is the duty of the State to restrict its activities and its funds to primary education and leave the University education to itself. This would prove suicidal, for the two are too closely connected to be *divorced from each other like that: the infiltration should be from the top. The dearth of* teachers is still with us. And if Universities are starved, suitable teachers cannot be had in the numbers we really want. In Germany, there is a rule that makes it incumbent that every would-be teacher should have had his training completed before he seeks a post in the educational *schools of the country.* That is one reason why education is so fruitful of results in that country. It would be impossible to obtain suitable men for the schools if University education in this country was made available only to those who could afford it. Such neglect of University education would severely react on primary and secondary education and hopelessly retard their progress. If we mean business we should strengthen University education and make it subserve national ends and aims. The primary national aim should be to disseminate education, to popularize learning and eventually banish illiteracy. If University education is costly to a State, ignorance would prove costlier to it. It would, therefore, be a mistake *to make University education dear to those desirous of getting it and deserving of it too.* So far as Mysore is concerned such a course would prove deleterious from the University point of view. It would retard the progress of the University; it would not help to popularize the University in the State; and it would not lead to expansion as the Intermediate Colleges would not show any tendency to increase. It is through the last of these that the University is securing a touch with the interi

parts of the State. The University atmosphere, on which so much stress is being laid, is not likely to be developed if these Intermediate Colleges cease to exist, for it is these that will help to develop the University eventually. Moreover, the ideal aimed at in this State, *i.e.*, the formation of two Universities, one at Mysore and another at Bangalore, would be impossible of attainment if the development of University education was retarded to any extent. Then, again, there is the greater need to-day for popularizing University education, for sound political progress is largely bound up with it. Not only that, if eventually University education is to become less and less dependent on the State and more and more self-maintaining, it should be so popularized as to make every man and woman in the State feel that the University is not a distant authority, located at Mysore, to grant mere diplomas and certificates. On the other hand, it should mean something nearer and dearer to them, an agency to foster and direct aright the education of one's own children and grand-children, and something too to which endowments and donations ought to be made on every possible occasion for the general benefit of the country. The University and its existence should be brought home to the people and this would be rendered wholly impossible if the scale of fees prescribed proves prohibitive except to a few in the land. The University would prove, all the more, successful in its aims and objects, if through its agency, education spread far and wide and made, for instance, the agricultural producer feel that the University talent of his own country was adding value to his goods and making it go far and wide as manufactured goods. Such successful handling of the raw produce of the land by the genius of its own University men would, in the long run, enrich the University itself and donations and endowments to spread its influence to the remotest corners of the country would be a matter of every-day occurrence here as it is in America to-day. Any retarding of University education, which certainly would result by the raising of tuition charges, would really kill the goose that would eventually lay the golden eggs for the University.

As a matter of fact, the raising of the fees cannot really benefit the University to any appreciable extent. During 1927-28, the Government grant to the University aggregated to Rs. 7,84,825, while the provisional grant for 1928-29 stands at Rs. 11,60,000. Then, as to College fees, the actual receipts in 1927-28 amounted to Rs. 79,299, while examination fees totalled Rs. 31,708. An analysis of receipts for 1927-28 shows that as against the Government grant of Rs. 7,84,285, all other receipts (fees, sale proceeds of University publications, interest on investment and the like) totalled only Rs. 1,87,793. In other words, the Government grant is about 4 times all other income derived by the University. Thus the University is a *State* University in every sense of the term and if the American type of *State* University is borne in mind, it is rightly so. If that be so, the fees should be, at worst, not more than nominal. The increase in the rates sanctioned would appear to bring in not more than Rs. 50,000 during the current year. Is this relatively small sum in a budget of about Rs. 14½ lakhs so great a matter as to become a serious obstacle for a right solution of this question? It is so small that it is almost negligible. No harm would come by withdrawing the proposed increase in the rates. Perhaps a great many people would even prefer an University tax if the Government agreed to levy one on the sole condition of making University education *wholly and absolutely free*. That, at any rate, has been the suggestion that has been seriously put forward and there is, from the point of view of the University itself, to say something for it.

A method by which additional funds could be made available for the University, so that its demand on the State exchequer may be kept at a fairly just figure, having regard to the other claims on it, would be to popularize land grants in its favour. In olden days, in India, this was a favourite mode of endowing Universities and learning of every kind. In modern times, New Zealand has encouraged this idea, and the Universities in it have a large income from lands held by them. John Stuart Mill, in his later life, declared himself in favour of it, giving up an older idea of his against such grants. Professor Stanley Jevons, not long ago, made mention of such gifts as a mode of popularizing the University and making it less and less dependent on the Government in Burma. Here is an idea well worth further consideration. Whatever may be eventually said on this head, there is no question that the question of tuition charges in University Colleges is one deserving of closer attention and we have, no doubt, it will have it at the hands of the Government. After the result of the voting at the last University meeting—which declared a Pyrrhic victory to those in favour of an increase—sympathetic action cannot long be declared.

Even if a reversion to the *status quo ante* is

found to be wholly impossible, a substantial reduction in the fees coupled with a proviso *that a definite percentage of the poorer students* will be admitted *free* into the University will, we trust, be adopted. We might add that in Prussia, University education has been rendered possible for poorer folk by such a concession in their favour. It is a rule there that 10 per cent of the pupils whose parents cannot afford to pay the full rate are to be admitted *free into the Universities*. That is a salutary provision and deserves a wider application here. Poverty is not yet a crime and if that is so, here is an opportunity for those who are inclined to that view, to give effect to it. We should, however, add a word of caution. The number of merit scholarships should not be reduced to provide for this concession. The two should stand entirely independent, for the very obvious reason that merit and poverty may not always go together and both deserve to be recognized for their own sake.

Abnormal Rates of Exchange.

By Professor Gustav Cassel.

The peculiar movement of the rates of exchange during the present year has been the subject of much discussion. It is of great interest to obtain a clear insight into the nature of this movement and the principal factors that have brought it about. The question is of immediate practical importance, especially as the abnormal rates of exchange necessitate shipments of gold which, from various points of view, are most undesirable. The attitude which the central banks should adopt towards these shipments of gold must obviously depend on the nature of the causes which have brought them about. Practical bank policy is therefore faced with the necessity of forming a definite opinion as to the real position of the rates of exchange.

It is indeed as yet too early to enter into a comprehensive investigation of the abnormal movements in the rates of exchange that have occurred in recent times. An exhaustive analysis of the factors which operate in these movements must be deferred to a time when both international movements of capital and the rates of exchange have been brought to greater stability. But the actual question as to what is the principal cause of the abnormal character of the present rates of exchange is of such immediate practical interest that an attempt must at once be made to answer it as far as possible. In considering this question, the problem which presses for immediate solution is the valuation of the pound sterling and, of course, especially its valuation in relation to the dollar.

In order to form an idea of the actual value of the pound sterling, one must set out from a comparison between the British and American price indices. It is convenient to select for this purpose the index numbers published by the Statist (British) and those of Fisher (American). For the years 1925—1927 the averages of the first-mentioned index numbers are 160, 150 and 144, the averages of the last-mentioned numbers 159, 152 and 143. As the average of the two index numbers for the three years is identical, their commensurability for the purpose in question seems to be satisfactory. As late as May 1928 the two index numbers were in close agreement, in that the British index number was 149 and the American 150. Since then, however, the index numbers have deviated from one another in a remarkable degree. In December 1928 the British index number had sunk to 139, whilst the American index had fallen merely a trifle to 147. The distance between the two numbers has subsequently been increased. For July 1929 the numbers are 135 and 149. Thus the American index number was then somewhat more than 10% higher than the British. On the basis of the "purchasing power parity" of the rates of exchange, the average rate of exchange for the pound sterling for July 1929 should have been 5.37 dollars. In point of fact the average value of the pound for that month was merely 4.85 dollars. The difference is very considerable and points to a great under-valuation of the pound sterling.

The practical conclusion to be drawn from these figures is obvious: the low international valuation of the pound sterling is not due to any real deterioration in the internal value of the pound, which, on the contrary, is more than satisfactory. There is therefore no reason to endeavour to peg up the rate of exchange for the pound by measures aimed at increasing the internal purchasing power of the pound sterling. The situation would have been entirely different if the low rate of exchange for the pound had been found to be an expression of an internal deterioration of the pound, reflected by an

increase in the British level of prices relatively to that of the United States. *In that case a real* inflation would have existed, and it would have been necessary to take the most drastic measures to limit the amount of money in circulation and to force down the British level of prices. The Bank of England would have been entitled, nay would have been under obligation, to resort even to a very high bank rate with a view to a speedy restoration of the purchasing power of the currency to the normal. The Bank of England has not acted in this manner. It has stoutly opposed a rise in the bank rate, though this expedient might have been regarded as the means nearest at hand to uphold the international position of the pound sterling and to safeguard the gold reserves held by the Bank. And the Bank of England, with apparent unconcern, has let its gold reserves be drained on month after month by the continuous export of gold. Only when this drain, towards the end of September, seemed to be assuming too menacing proportions, did the Bank consider it necessary to proceed to an increase in the discount rate.

The gold reserves had then fallen considerably below the figure of 150 million pounds sterling, which, according to the Cunliffe Committee, was to be regarded as a normal minimum. The Bank has thus plainly shown that it considers that the gold reserves exist in order to be used in the case of abnormal requirements, and not to be immobilized in accordance with stereotyped rules. It seems incontestable that the Bank of England has thereby done the world a great service, as its example will apparently continue to be universally regarded as a standard of sound bank policy.

Of course the Bank would not have acted in this manner, had it not been convinced that the internal value of the pound sterling was quite satisfactory, and that measures for a further reduction of the British level of prices would have been not only unnecessary, but also extremely ill-advised from the point of view of the internal economy of the country. In taking this view the Bank could find support in the fact that also the cost of living showed a downward tendency. In the middle of 1925, just after Great Britain had reverted to a gold standard, the cost-of-living index number was 173. In the middle of 1928 the index was 165, and in the middle of 1929 160. The comparatively satisfactory trend of exports seems moreover to show that British industries can produce their goods at prices which render them fully able to compete on the world market.

The very considerable under-valuation of the pound sterling lends new interest to the question as to the causes of such under-valuations. I discussed this problem in a previous article. I then came to the conclusion that deviations from the purchasing power parity were to be attributed principally to marked changes in the international movements of capital. There are cogent reasons for believing that the deviations of the rates of exchange from the purchasing power parity have been caused in the present instance too by such factors. The high rates of interest on the New York exchange have drawn floating capital direct from England to the United States. Moreover the loans of the United States to foreign countries, and especially to Europe, have decreased very considerably owing to the general shortage of capital that has prevailed in the United States. The consequence has been that would-be borrowers, who would otherwise have applied to New York, have instead gone to London, and that the outflow of capital from England has been carried to such a pitch that it has tended to press down the rate of exchange for the pound and from time to time has necessitated shipments of gold. So far as can be judged at present, it is this marked change in the international movements of capital that has been the principal cause of the under-valuation of the pound sterling in relation to the dollar. Possibly other factors have contributed. But, as previously indicated, an analysis of such factors is not possible until both the rates of exchange and the movements of capital have reverted to a more stable and normal position.

There is likewise an under-valuation, though on a much smaller scale as regards the Swedish krona in relation to the dollar. Sweden's official index for wholesale prices (that published by the Swedish Board of Trade) in previous years corresponded very closely with Fisher's index for the United States; for 1928 it showed the average of 148, whilst Fisher's index for that year averaged 149. For July 1929 the Swedish index has fallen to 140, whilst Fisher's index for the same month is still 149. According to these figures the internal purchasing power of the Swedish krona is about 6% higher than that of the dollar. None the less the average value of the dollar for July was almost exactly par. Although some uncertainty attaches to the figures, they seem at any rate to point plainly to an under-valuation of the Swedish krona in relation to the dollar. It is also fairly plain that this under-valuation is due to the same factors as in England, though in Sweden those factors have been less potent in their action. So far as we have heard, Sweden has had no difficulty in

maintaining the rate of exchange at par. The Swedish capital market is, of course, much less exposed than the British market to the effects of a temporary shortage of capital in America.

When we endeavour to explain why international movements of capital in recent times have taken such a decided trend in the direction of America, our attention is at first naturally drawn to the high rates of interest that have been paid for loans on the New York Stock Exchange. In the discussion of the subject this *explanation has been pushed into the foreground* and few people have taken the *trouble to consider* whether it is exhaustive. In reality the influx of capital into the United States has a deeper-lying cause, the shortage of capital which actually exists in the American business world. Though the formation of capital in the *States has advanced with amazing rapidity, the internal requirements of capital have increased* at a still greater pace. The total sum of the public issues of new capital has risen year after year, amounting for 1928 to 8,050 million dollars. There has since then been a further increase, the total issue for the first six months of 1929 *amounting to* 5.371 *million dollars. Now, since the middle of 1928 the domestic* market has absorbed a much larger proportion of the total capital. Whereas during the first six months of 1928 22.7 % of the total amount of the new issues went to foreign countries, this proportion fell for the latter half of 1928 to 9.9 % and *for the first six months of 1929 to* 10.5 %. *The greatly diminished investment* of American capital abroad has certainly not sufficed to outweigh the movements of capital in the opposite direction, that is, into the United States. If the fact that international movements of capital have *proceeded* mainly towards America is due to a real shortage of capital in the United States, which, in its turn, is caused by an extremely rapid industrial *expansion, these facts obviously have an important bearing in gauging the over-valuation of the dollar and the probable duration of this peculiar* phenomenon. Speculation on the New York Stock Exchange can then no longer be regarded as the sole decisive factor.

Hitherto the amount of money in circulation in the United States has, broadly speaking, just *sufficed to maintain the internal level of prices* constant. *The* index of the Bureau of Labour (when 100 signifies the average for 1926), after a period of depression, went up again to 100 in September 1928. In June 1929 it fell back to 96. These movements are in themselves *scarcely of such a nature as to give rise to apprehensions of a continued depression of the American price level.* But, should the Federal Reserve banks be induced by the state of things on the Stock Exchange to embark on a more rigorous restriction of credits than is warranted by the actual shortage of capital, a real process of *deflation is bound to set in. The obvious conse.uence will be a continuous rise in the* internal purchasing power of the dollar. Such a movement would, of course, further complicate matters for those European countries whose currencies are already now under-valued in relation to the dollar. The under-valuation in *itself is a troublesome matter, but it can be overcome, and the* indications show that it will probably adjust itself within a comparatively short space of time. But a continuous depression of the American price level would be a disaster, which the rest of the world would be powerless to avert, and which would be bound *to have far-reaching and lasting effects.*

CALENDAR SIMPLIFICATION.

The Continuation Committee of the "Life and Work" Conference of the Churches, which was requested by the League of Nations to deal with the Simplification of the Calendar, has just *concluded its deliberations at Eisenach* (Germany). *On the question of the Simplification of the Calendar the Committee is of opinion* that the National Committees to be established in accordance with the recommendation of the League of Nations' Special Committee are the bodies best qualified to study the technical *conclusions reached by the Special Committee. It is further of opinion that, in due course, the* Churches should contribute their views on the proposed systems. The Committee, recalling that in 1925 Dr. Adolf Keller on behalf of 82 Protestant Churches and Federations stated that the Communities which he represented saw no difficulty or disadvantage in stabilising Easter, adds that they are *prepared to participate in the future studies and discussions* and in particular in the preparations for the International Conference which will be necessary. The Committee would emphasize the necessity of securing an adequate representation of all the churches and religious organizations. It wishes to express its appreciation to the Special Committee for Calendar Reform for the work it has accomplished and would assure the official agencies concerned of the League of Nations of its interest in their efforts for co-ordination. The Committee desires further to thank the numerous persons who have submitted their personal solutions of the problem of Calendar Simplification.

Bhadravati Iron Works.

By Sir M. Visvesvaraya, K.C.I.E.*

As I am handing over, to-day, charge of the office of Chairman of the *Board of Management* —an office held by me for nearly 6½ years—it may not be out of place to pass in rapid review, the past history, present position and future needs of this undertaking.

Origin of the Present Board.

The Iron Scheme was sanctioned and started in May 1918. In December of that year I retired from the office of Dewan and my connection with the Works automatically ceased.

The revised estimate for the work amounted to Rs. 94 lakhs and the understanding with Messrs. The Tata Iron & Steel Co. and their Consulting Engineer, Mr. C. P. Perin, was that the work would be completed and brought into operation in about 18 months, *i.e.*, before the close of 1919.

The work was not completed in 1919 as intended and the construction was prolonged till after January 1923. The construction expenditure also rose to Rs. 161.84 lakhs by the end of June 1923. When the work was approaching completion by the middle of 1922, doubts were raised by the Agents and by Mr. Marshall, their Consulting Engineer, that it might not be possible under the conditions then prevailing to operate the plant except at a heavy loss, and it was suggested that the plant should not start operation but be kept in readiness for it as soon as circumstances seemed favourable.

It was at this time that I was consulted by Government. The advice I gave was that Mr. Perin of New York should be sent for with a staff of skilled operators to operate the plant for 4 to 6 months and then hand back the plant in charge of a competent Manager to the control of the Mysore Government.

Government took action accordingly. Mr. Perin came with a staff of American operators and started work in January 1923.

When Mr. Perin was about to leave in March 1923, Government again approached me to help them in managing the industry. Mr. (afterwards Sir Albion) Banerji came over to see me in Bombay to ask me to take over the control. I agreed to help for about six months in the first instance and a Board of Management was constituted with myself as Chairman.

I think it is necessary to mention that these arrangements were brought about, chiefly through the exertions of the present Dewan, Mr. Mirza M. Ismail, C.I.E., who was then Private Secretary to H.H. the Maharaja. His Highness the Maharaja was also pleased to telegraph to me his satisfaction at my having consented to look after the concern.

Progress in Six Years.

When the plant started operation in January 1923, the construction had not been completed; the machinery and equipment in each section was not working satisfactorily and needed repairs, adjustment and thorough overhauling. Work on the Kemmangundi Ropeway had been suspended and the cost of collection and transport of raw materials was very high. The price of pig iron had begun to decline rapidly. The operation of the plant was beset with difficulties on all sides, and considerable prejudice had to be overcome in familiarizing the local foundries with our charcoal iron which was an entirely new and unknown product to them.

During the last six years, the operations have been reduced to a system, the cost of collection and transport of raw materials brought down to the level originally estimated, the output maintained at a satisfactory level and the cost of production reduced by more than 50 per cent. A local staff has been trained for the various positions, and methods of modern administration have been introduced on the plant. The Works have gradually been made to pay their way. For the last three years in succession, there have been no losses and the operations of the year 1928-29, taken by themselves, yielded a surplus of about Rs. 2 lakhs against a calculated annual depreciation of about Rs. 3.5 lakhs. The table in the next page, giving some salient figures of operation and sales, will indicate the progress made during the six-year period under review.

The results achieved are due to the interest taken by and the activities of the members of the Board of Management and the several General Managers and officers on the staff. We have been particularly fortunate in having a sympathetic Board and a band of enthusiastic officers who have cheerfully faced many trying ordeals.

The Works owe a special debt of gratitude to Sir K. P. Puttanna Chetty, who has been in

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*Statement made by Sir M. Visvesvaraya on 24th September last, at the time of handing over charge of the Office of Chairman of the Board of Management

close touch with its affairs and has rendered material assistance in the progress of operations.

TABLE.

Period.	Pig Iron.			Value of Net Sales*
	Output	Cost of Manufacture per ton.	Net Sales Price per ton.	
	Tons.	Rs.	Rs.	Rs.
Half year ended 30-6-1923 ..	4,817	102.38	94.5	1,37,640
Year ended 30-6-1924	12,680	80.3	80.3	6,10,288
Do 30-6-1925	17,598	68.2	53.8	8,94,508
Do. 30-6-1926	17,891	55.1	46.5	10,17,165
Do. 30-6-1927	20,055	48.8	49.8	12,45,765
Do 30-6-1928 (345 days)	17,169	47.7	49.3	13,14,129
Do. 30-6-1929 (223 days)	18,314	43.3	48.05	13,60,646

* The figures given show only net transactions: the actuals including selling expenses amounted to nearly 50 per cent more.

Special Disabilities.

The Scheme at its very inception encountered three special disabilities :—

One was *delay in construction*. Instead of the 18 months originally stipulated, the construction period was spread over 5 years and there was *no continuous central authority* on behalf of Government to co-ordinate the work of the three Departments of Government and that of the Agents. Even when work was actually opened in January 1923 the operation was partial. The entire plant did not begin to operate until a later date.

Had it been completed in 1919 as originally intended, the Works stood a chance of being firmly established before a substantial decline in the market value of pig iron came about.

The second disability was *over-capitalization*. The sanctioned estimate was Rs. 94 lakhs and for various reasons it went up to about Rs. 162 lakhs. On the recommendation of the Board, Government have since written down the cost by Rs. 87 lakhs.

The third and the greatest disability the Works have had to encounter has been the *decline in the market value of iron*. In 1919, the price was in the neighbourhood of Rs. 130 per ton; in 1923, when operation started, it had fallen to about Rs. 95; and to-day it stands at about Rs. 45.

The price is particularly low in India because other factories developed production in Bengal simultaneously with ours. There was over-production in consequence which has resulted in lowering prices in India and all over the world.

Present Position.

The present position of the Works is explained in the Annual Report for 1928-29. The Furnace was enlarged and blown in on 10th September last but she has not yet begun to work to her full capacity although the average daily output is already higher than in any previous year. The present Pipe Foundry was a source of anxiety till recently but it is now giving entire satisfaction. The new Pipe Foundry is approaching completion and will be ready by January next.

We have a staff of engineers and workmen who are keen and capable and who, with proper direction and encouragement, will be able to make a success of any department of this industry.

Manufacture of Steel.

The Works are now manufacturing semi-finished products but in order to create a local market and secure the best financial results, the manufacture of finished products must be our chief aim in future. The most important development in this respect is the manufacture of Steel.

Our engineering staff have been carrying on experiments in the manufacture of Steel under the advice of experts and they have obtained results which may be considered satisfactory and even remarkable.

The State has all the essential raw materials and facilities for making Steel of all grades and kinds. Articles rolled from mild steel, such as cart tyres, rounds and other sections are in every-day demand in every village in Mysore and Southern India. What is needed is electric power, which may, in the first instance, be supplied from the Cauvery Power Scheme and later permanently from the Jog Falls.

In the early years the entire output of steel will be absorbed within the State and the Works will derive full advantage of the cheap freight to the market and the present protective duties. With further developments the Works may be able to meet a portion of the demand in Southern India outside the State. Detailed calculations show that the Works can successfully compete under the present market conditions. A fall in prices is predicted after the next five or six years but this need not cause alarm as the forces that have contributed to improve operations and reduce costs till now may be expected to continue and enable the Management to cope with any changing situation.

Our engineers and workmen will, with assistance from experts for a few months at the beginning, be able to make any grade of steel on a commercial scale and on a competitive basis.

FUTURE NEEDS AND ACTION.

The convenience and health of the town should be gradually improved as the financial resources of the Works permit. The staff require more accommodation. This could be provided only by encouraging private effort and enterprise aided by such help as the Board can give. The housing conditions for labour are not satisfactory. An improvement in their surroundings and other amenities should be *effected partly by encouraging self-help and* partly by giving small grants and rewards from *time to time.*

The improvement of the old town should also be taken in hand through the District authorities. It may not be advisable to take over direct responsibility but the town should be maintained in the condition in which the Works want it. Suitable grants for town improvement may be given when the Works can afford them.

One or two engineers and members of the managerial staff should be always in Europe or America to learn the latest methods and process of the industry. Each person should be sent ordinarily for about six months at a time.

The development of power at the Jog Falls and the utilization of the vast mineral resources of Shimoga, Kadur and Chitaldrug Districts call for the special attention of Government. It should be possible to build up subsidiary industries like paper, artificial silk, lumber, etc., in combination with the Power Supply Scheme by associating private capital and enterprise with Government.

Eventually the Iron Works might be converted into a semi-public concern by creating share capital and selling shares to the local investors while reserving for Government a controlling interest in the concern.

SPECIAL PRECAUTIONS FOR THE FUTURE.

For the past 18 months, no changes in organization and no improvements have been attempted because we wanted to know whether we were to proceed with Steel or not. We have been preparing for Steel Manufacture. If the proposal is to be dropped, it is necessary to *decide soon and re-organize the Works for a* limited output and restricted activities.

The Sales organization requires strengthening. More activity in this Department has been necessary for a long time. Returns and correspondence should be more prompt. Discipline is fair but should be pronounced still slack if judged by the best European and American standards. *The omission to maintain a high* standard of activity and vigilance even for three to six months will be enough to ruin the concern. There is the necessary capacity for the efficient management of the concern but as the work is new and our officials and workmen unaccustomed to modern industrial life, they *need cautious and sympathetic handling.* Every officer and workman should be utilized for doing the work for which he is best qualified. No one should be given work for which he is not qualified and then condemned, *if he fails to come up to expectations under* every test.

*As I mentioned to Government in a com*munication last year, three to six months' neglect will be enough to bring matters into confusion and create a crisis. So, extreme vigilance is necessary and once in two or three months the state of the work in every department, chiefly of production and sales, should be *specifically reviewed.* As a result of such review, *decisions should be taken promptly and action should follow.* Even an unsatisfactory decision, if taken promptly, will have a better effect on the morale of the concern than if delays are allowed to occur.

GENERAL.

The future prosperity of the State is dependent upon its industries and Steel, at the present time, is the mother of all industries.

It is true that Government have spent much money on this industry and have had no direct benefit so far. This is due partly to mistakes and delays at the start and partly to the unprecedented trade depression which overtook the industry after its operation began.

But taking a broader view of the matter, six years is too short a period for any country to establish permanently an iron and steel industry in the face of disastrous world competition such as we are encountering at present.

How disastrous has been the trade depression will be understood from the fact that long-established concerns in England like Messrs. Armstrong Whitworth & Co., Messrs. Vickers, Ltd., and Messrs. William Beardmore Co., of Glasgow, have had to face enormous losses during *this period in spite of millions of reserves* previously built up. They were able to reduce their capital assets and reorganize their concerns with the liberal aid and concessions received by them from the British Government and the

Banks. In the case of one of these Companies, the share capital had to be written down from 20 shillings to one shilling.

A similar story can be told of many an iron and steel works in England and other countries except perhaps in the United States of America and Canada.

Japan has been endeavouring to build up a steel industry with protective duties and Government subsidies, and after about forty years she is just beginning to achieve her ambition to be self-supporting in this respect.

I have excluded from this note all controversial matter, but the vicissitudes of fortune of the English Companies mentioned above should be sufficient proof that the early years of operation of our plant have coincided with a period of unparalleled depression. It is clear that in such circumstances our Works could not have fared better than they have since the present Board took over charge of it.

It is now proved beyond doubt that the experts who stated in 1923 that the concern would not even pay its working expenses were *not correct.* Our Indian staff is quite capable *of working the concern on a remunerative basis. Given the prices and conditions which prevailed even in 1923, the Works would be earning Rs. 8 to 9 lakhs this year after meeting charges for depreciation.*

Government have not done badly in the past in their productive undertakings as a whole. The iron and steel industry is an undertaking of far-reaching importance. Since they have put their hand to it, it is hoped Government will persevere and encourage this concern and continue to work it on European and American lines. The training our officers have received is a real asset and the momentum so far gained in bringing this industry into existence should not be lost by any hesitation to incur the further financial responsibility demanded. It will be to the eternal credit of the Mysore Government if they persevered and carried forward the industry till it begins to earn a satisfactory dividend and becomes a permanent asset of the State.

Military Education for Indian Boys.

By Dr. Moonje, M.L.A.

Of late, debates on the need of providing facilities for military education for Indian boys have been rather frequent in the Legislative Assembly. I was thus offered a chance of visiting the Army Institutions providing such education to Indian boys.

I have just returned after visiting the two King George's Royal Military Schools of Jhelum and Jullunder and also what is called the Prince of Wales Royal Indian Military College of Dehra Dun. The two schools are meant solely for the sons of Indian Officers of the Regular Indian Army who hold or have held the Viceroy's Commissions, including those who have subsequently been granted a King's Commission or Honorary King's Commissions and also of non-commissioned officers and men who are serving or have served in the Regular Indian Army. There are about 250 students in each *school ranging between the ages of 10 and 15 years. The Jhelum School is meant for Moslem students, such as the Punjabi Moslems* and the *Pathans* and *Jullunder School is meant* for Hindu students, such as Sikhs, *Dogras* and Rajputs. The object of these schools is to enable the boys to find a career in their fathers' regiments or corps but they are not eligible for direct commissions in the Army.

What is called the Royal Indian Military College at Dehra Dun is designed to provide the necessary preliminary training for Indian and Anglo-Indian youths who desire subsequently to enter the Cadet College in England with a view to obtaining King's Commissions in the Indian Army. Though it is called a Royal College, it is in fact a school providing a public school education on English lines. Nominations for admission to the college are made by His Excellency the Commander-in-Chief from amongst boys selected according to Rules made for the purpose by the Local Governments or Administrations or the Political Officers as the case may be.

These are the only three institutions in India which give preliminary training of some kind to Indian boys who want to make the Army their profession in life. These are wholly residential institutions and are maintained in *strict military discipline. The school fee per boy in the Jhelum and the Jullunder Schools is Rs. 7-8 which is, in fact, a contribution by the parents towards messing expenses ; everything else such as teaching, clothing, etc., is provided* free. What struck me most, just to start with, was that the boys of the Jhelum School, Punjabi Moslems and Pathans, as compared with the boys of the Jullunder School, Sikhs, Dogras and Rajputs, appeared better nourished though

both the sets of boys have the same social status and have been brought up under practically the same conditions of life in their villages. Besides they come from what are reputed to be the eminently fighting classes of India and are now being trained under identical rules and regulations in these schools. On critical study, however, of the routine of their dietary in their respective schools, I found that the boys in the Jhelum School get daily goat's meat at least once a day and on certain days in a week twice a day. The boys of the Jullunder School, though paying the same fee of Rs. 7-8 per month per boy as the Jhelum boys, get meat only once a week. But for this little difference the food, however, in every other respect is quite similar, well cooked, well served and found tasty on my personally tasting it. This point ought to prove most instructive to all those who have to do with the upbringing of school-going boys. I have suggested to the Commandants of the Jhelum and the Jullundhar Schools the feasibility of poultry farming on the premises without any extra cost as an adjunct of the kitchen gardening of the schools which makes them practically independent of market vegetables.

In the Military College at Dehra Dun, things are arranged on a grander scale and the yearly fee alone per boy for 8 months and 6 days of training in two terms of a year is fixed at Rs. 1,500, *i.e.*, Rs. 125 per month per boy excluding payments that have to be made for certain other sundries and contingencies which come in the average to about Rs. 50 per month per boy. Boys admitted in the College must be between the ages of 11 and 12 years and the course of training takes in the average about 7 years to complete, when they become eligible to enter for competitive examination for admission into the Military Colleges of England. The father of a boy maintaining his son or sons at the college for the average period of the college courses of, say, 7 years, has thus to spend about Rs. 15 thousand to Rs. 17 thousand for the course of training of 7 years. Besides, if the boy succeeds in passing the competitive test and getting admission to any of the Cadet Colleges in England, the father must be in a position to spend another Rs. 10 thousand or so, for maintaining him in the Cadet College for a course of training for 436 days in 3 terms of 18 months in England. Thus a father desiring to secure a commission for his son in the army must be in a position to spend from Rs. 25 to Rs. 30 thousand per boy and should he happen to be a father of four sons and endowed with a sense of equity and justice in the matter of giving education to all of them, he must find at least a lakh of rupees for the purpose. Evidently, in this unfortunate country of ours where we, living under a foreign rule, have no powers to manage our own affairs, there must be only a few of such fathers with gifted sons; for we are imbued in the tradition of ages past that wealth and intellect, that is, Lakshmi and Saraswati, the twin sisters, though complementary of each other, do not walk through life hand in hand. Besides, it should be noted here that, though a father spends as much as Rs. 25 or 30 thousand, which connotes a fortune to many a parent in India, over the education and training of his son in the Dehra Dun College, he is not sure that the handicap under which an Indian boy has to compete with British boys similarly trained in England has been entirely removed: for it is rightly remarked in the pamphlet of Regulations:- "The average (Indian) boy joins the college at the age of 12 and leaves it at the age of 18 to 20. This period is in no sense too long for the objects the college has in view. The English boy with whom the Dehra Dun Cadet will have to compete, has been undergoing training of similar lines from the age of 8 if not earlier." Thus if the training of an Indian boy be commenced at the age of 8 years to be at par with a British boy under training in England, the cost under the present system will rise up to Rs. 40 to 50 thousand per boy.

Looking at it from this practical point of view, after considering the means of an average parent and believing in the urgent need of giving preliminary training of the kind which these institutions run by the Indian Army have made a speciality of their own along with the book education that is given in the ordinary civil schools, I have no hesitation in saying that the model that is best suited for us in every way and equally efficient is that of Jhelum and Jullunder rather than that of what is called the Royal Indian Military College of Dehra Dun. I am immensely impressed with what I saw at Jhelum and Jullunder and I am at a loss to find words to express my full appreciation of the kind of training given in these schools for inculcating the habit of punctuality and regularity, tidiness and cleanliness, cheerful submission to discipline and manliness and self-effacing spirit of service together with a healthiness of mind and body, such as will render them intrepid and patriotic leaders of men in a national army and true, useful, high-minded citizens of India and its Empire. In short, the system of training is effective and what is more it is cheap and

within the compass of all of us and yet it fits the boys to face with fortitude and endurance the hardships insaperable from life in the Army and the Air Force.

I strongly recommend that the Provincial Ministers of Education and the representatives of the trustees and the Managing Bodies of non-official educational institutions should make it a point to visit these schools to study their working and management and particularly their system of physical training, drill and discipline in all their details with a view to establish such schools in their respective provinces. If the preliminary training of the kind given in these schools is made cheaper and generally available to the boys of the middle educated classes, we shall never have the humiliating spectacle of not being able to find 32 Indian boys to stand the test of physical fitness and leadership even to the satisfaction of the British Military Officers of the Interview and Record Board, to fill the 32 yearly vacancies that have been thrown open to Indian boys in the Military Colleges of England.

I cannot conclude this statement without taking this opportunity of publicly expressing my grateful thanks to the Commandants of these Institutions, Col. Hutchison and Captains Sharpe and Clarke and the staff of British and Indian Officers under them for their cheerful response to my critical enquiry about their institutions and for their free and friendly co operation. What pleased me most, however, was that the boys loved their Commandants like their fathers; while the Commandants themselves mixed freely with the boys from early morning till they went to bed at night, guiding, encouraging, scolding and caressing them as if they were their own children.

Making Flying Safe.

By Harry Harper,

Author of "Twenty-Five Years of Flying".

I have just been privileged to obtain some fascinating, behind-the-scene glimpses of a number of new and wonderful devices, human almost in their ingenuity, which science has created—and is now employing with remarkable success—to ensure the safety and dependability of 100 miles-an-hour transport through the air.

How safe and reliable the commercial aeroplane has already become is proved conclusively by fresh data which have just become available in connection with the operations of Imperial Airways.

Their all-the-year-round figure for dependability in daily figure has, these statistics show, now risen to well over 90 per cent and this in spite of the fact that our British aeroplane routes between London and the continent have to contend with weather which is the worst in the world from an airman's point of view. As for safety, the latest returns which are before me show that during the past four years the winged craft of Imperial Airways have carried nearly 100,000 fare-paying passengers without injury to a single one of these aerial voyagers.

Weather and Wireless.

"What is the secret of this splendid record?" I asked one of the engineers at the London air-station the other evening, while we were inspecting some of the latest apparatus which has just been installed at this great "aerial Charing Cross".

"Apart from the use of first-class multi-engined aeroplanes, admirably maintained and superbly flown, it lies" was his prompt answer, "in the existence of a magnificent organization of wireless, meteorology and ground-lighting."

Let me try to describe how, in its latest and most perfect form, all this wonderful organization now works. To begin with there is meteorology—all-important in regard to any form of aerial operation. Over the entire network of airways—and there are now well over 50,000 miles of organized aeroplane lines in Europe—messages are flashing constantly which deal with weather conditions. Not only when they are on the ground, but also when they are high aloft, pilots are informed instantly of every change likely to affect their flying. If mist or fog develops along any section they are told about it. If a gale springs up they are informed. If they have to steer for any length of time through bad visibility and feel uncertain of their exact position, they have only to ring up one of the main air-stations on their wireless telephone, and bearings are obtained which enable ground operators to tell them the precise point above which they are flying at that particular moment. Thus a pilot can be guided accurately to an air-station even though he is flying above low-flying cloud or fog, and can obtain for the time being no glimpse of the ground below.

The Night Beacons.

In aerodrome lighting I was shown what new triumphs science is achieving. Great "neon" beacons—which have been described picturesquely as "pillars of fire"—are after a phase of experiment now coming into regular operation. These towers emit an intensely reddish, fog-piercing ray, which can be seen by airmen when they are miles distant. And as a pilot circles the aerodrome to alight, either at night, or in bad visibility, another remarkable piece of apparatus now comes to his aid. This takes the form of brilliant electric lights, sunk beneath the level of the alighting ground, and protected by thick glass covers. The pilot, looking down from above as he comes gliding in, catches sight of these sunken lights. He steers directly for them, and can bring his machine down right over them, the thickness of the protecting glass preventing wheels or skids from doing any damage to the light-tubes beneath.

Presently, during my tour of inspection, I ascended to a large glass-windowed chamber at the top of the control-tower at Croydon and seemed to pass from the world of to-day into the world of to-morrow. Perched high above our busy terminal air-station that chamber, with its maps, wireless instruments and levers, is the forerunner of giant structures, replete with intricate apparatus, by which aerial traffic will be controlled above oceans and continents and spans the entire world.

A Magic Tower.

In that magic tower at Croydon one sees the unseen and hears voices from the clouds. On one side of you, behind a glass partition, sit wireless operators with head-phones to their ears, and valves and switches on a table before them. At your elbow is the traffic controller who, every now and then, moves little numbered flags across the surface of a big map. These magicians up in their tower, working quietly and without hurry, know everything that is happening on the airways radiating from London across the Channel into Europe. Though an "*air express*" may be *rushing* at 100 miles-an-hour high above the earth, hidden perhaps by clouds from the view of earth-folk, these men know where it is and what it is doing. They know whether the pilot is having an easy journey or whether he is battling with storms. They not only know this but they are constantly aiding him as he flies on.

The Wireless Phone.

It is one of our greatest pieces of scientific wizardry, this and its secret lies in the perfection of the wireless telephone in its application to commercial aviation. From that lofty tower words flash out into the void and are heard by the airman who sits in his cockpit poised somewhere above mid-Channel, or rushing between London and the coast. Not only does he hear them but, simply by the turn of a switch, he himself can converse freely with that far-off tower. Constantly the talk goes on annihilating all such restrictions as man has laboured under hitherto. The conquest of the air seems wonderful enough as, looking down from the windows of the tower, you see passengers entering and disembarking from great winged machines which cleave their way along aerial highways just as freely as trains rush upon their metal tracks below. And then when you turn and listen to what goes on in this aerial wonder-room it seems a climax of man's efforts to free himself from the bonds that fetter him and to enter that era in which the words "time" and "distance" cease to have the limitations they have had since the world began.

Most imagination-stirring of all is the experience of being up in this tower as the light fades and night comes on. The controller leans over and moves certain switches. Instantly there leaps to life the flash of the aerial lighthouse, and the far-off gleam of boundary and obstruction lights. On, too, comes the great floodlight. And then, down in ghostly fashion from the upper darkness, glides some big 'plane of Imperial Airways, with its navigation lights gleaming and a warm glow from its curtained cabin windows. It is man's conquest of the air epitomized!

The Administration Report of the Madras Port Trust for the year 1928-29 states:—The shipment of bone manure has declined by 15.7 per cent, the figure for the current year being 1,084 tons. Shipments of other manures, including acetate of lime, have on the other hand advanced by 49.4 per cent, the figure for the current year being 4,201 tons. Shipment of acetate of lime increased by 54 per cent, the figure for the current year being 1,825 tons.

The young exquisite was just about to make a start in business. "I suppose," he drawled, "you'll pay me what I'm worth."

"Better than that," said the head of the firm. "We'll even give you a small salary."

The Rambler.

"Responsibilities gravitate to the person who can shoulder them and power flows to the man who knows how."—*Elbert Hubbard.*

Lancashire and its Future.

By Harold Brighouse.

Strictly, he was a Cumberland man, and "Does it always rain in these parts?" asked a suffering visitor from London.

"Oh, no," the native replied cheerfully. "Whiles it snaws."

But there is a spot up Wrynose Gap in the Lake District called Three Shire Stone where Westmoreland, Cumberland and Lancashire meet, and the Cumberland story can cross the Lancashire border with no loss of relevance.

Lancashire is damp: hence, in fact, Lancashire. It was precisely the humidity of atmosphere prevailing in a coal-and-iron area which made Lancashire the headquarters of King Cotton.

Even before the industrial uses of coal were discovered before the invention of steam-power, cotton grown in America was being brought to Lancashire for manufacture. They used water-power in those days, and the ruins of old mills on the banks of the rivers which turned the water-wheels are still to be seen. It is not inappropriate, for reasons presently to appear, to compare the ivied ruins of the riverside mills with those of the Robber Barons' Keeps on the Rhine.

Jack His Own Master.

Earlier still they used man-power. Spindles were, comparatively early, linked to a water-wheel, but looms were in the cottage or in a lean-to shed outside the cottage (which is, why we still speak of a weaving-shed though it be a glass-roofed immensity with looms by, perhaps, the hundred), and they were worked by the foot which stirred the treadle.

Even in that (so to speak) pastoral age of cotton, Lancashire was not a playground: it was England's textile workshop and there was no regulation of the hours the handloom weaver might work in his cottage, nor of the number of moorland miles he walked in to the nearest town with his cloth on his shoulder and out with his yarn for the next piece's weaving.

He walked through boggart-haunted glades and he hated to be overtaken by night because of the boggarts and of a more substantial peril, footpads. The footpads relieved him of his earnings but they left him his weft; they didn't kill the goose that laid the eggs.

Still, those were the easy-going days and Jack was his own master, with a craftsman's pride in good workmanship; and, if he wanted a day off for a cock-fight, he took his day.

Devildoms of Steam.

But with the coming of steam there arrived to Lancashire that tragedy of industrialism which, by all decent dealing, should have the mitigation of a happy ending now. They have come through the age of brutality: they have won (God knows at what price) a reasonable balance between master and man: and their reward should be, at the least, that the world's finest corporate instrument for making cotton goods is busy making them. It is not busy: that is the irony of it.

The poignancy of that irony is best perceived by taking a few glances at cotton in its feudal age.

The factory system was a reasonable idea, unreasonably applied. It was reasonable to instal a steam-power engine and to accumulate round it the spinning and weaving machinery which it drove. It was reasonable, having done that, to build cottages for operatives and to stock shops with their necessities.

But that was, at once, to revive the feudal system; it was worse because the shopkeepers of a feudal town were free agents and the cotton-masters' were truck-shops in which his people must either buy at his price or starve. We have, to-day, our modern mobility: yet we know it for one of our troubles that we can't with any readiness move coal-miners from their devastated area. How much more difficult, then, once having reached a cotton town, was it to leave it in those days of few travel facilities! The owners helped people to arrive because they needed labour, but there was no assisted passage out of a cotton town for a man who didn't like it.

Steam fastened on that generation, stunting it, twisting it, blasting it. A West Indian slave-owner is quoted saying: "Well, I have always thought myself disgraced by being the owner of slaves, but we never in the West Indies thought it possible for any human being to be so cruel as to require a child of nine years old to work twelve and a half hours a day and that, you acknowledge, is your regular practice."

Greed *vs.* Humanity.

The legal age at which a workhouse child could, till twenty-one, be bound apprentice to the master was in fact, seven, and Fielden, a reforming employer, calculated that in following the to-and-fro movements of a spinning machine

for twelve hours, he walked no less than twenty miles. The heat of the rooms was 70 to 90 degrees and (in 1818) "*those who should* have appeared as men was like boys of fifteen and sixteen and most of them cannot measure more than 5 feet, 2 or 3 inches."

A marred generation and a law, called the Combination Act, to make Trade Unions illegal!

Well, we have changed all that, partly by pressure from the victims *themselves and partly* by factory reform movements from within and from above, headed by men like Peel and Shaftesbury, but enough has been said to prove that progress really does progress and that it *was from a hellish starting point that the ideas* of civilized humanity began to operate in the Lancashire factories of the Industrial Robber Barons. The six A.M. *factory* bell (*announcing*, they used to say, "Work or clem"—and clem means starve) no longer rings before breakfast and even the half-timer has gone, though his going was most violently opposed by his parents.

There is still complacency about smoke. "Where there's dirt, there's brass," is a saying of theirs, and while the new industrial districts in the South are clean, because their machinery is driven by electricity, for the most of Lancashire the heart of the mill is the steam-engine. Certainly post-war trading conditions don't justify expenditure on scrapping steam-power and turning over to electricity. Communal health is another matter.

But what are post-war conditions and why, after being for a hundred years a battleground of Greed vs. *Humanity, with the victory well won for Civilization, why, after her agony, isn't Lancashire prosperous to-day?*

There was, it is deplorably true, a short burst of prosperity immediately after the war. The world's markets were understocked and there was some fairly general anticipation that demand would continue for five years. For a brief, hectic time Lancashire became the Tom Tiddler's Ground of the company promoter. Shareholders who considered that they had "done their bit" *during the war got out* at fancy prices and went to live at Bournemouth.

Lancashire, which traditionally had financed itself, let in the alien (by which is meant the London) shareholder. It let him in and let him down. Individual shareholders have their private grievances but, looked at in the large, these suffering mills have not handicapped, they have *positively* helped. Lancashire in her post-war fight for overseas trade.

There was internally a cut-throat competition, resulting in a general lowering of prices to figures well below cost prices, and that way ruin lies; but, meantime, there lies also the fact that, by uneconomic prices, Lancashire retains a part of her foreign trade which otherwise *would have gone to the mills of China and* Japan. And in the retention of that trade lies one of the hopes of the future, while the over-capitalization is an evil which would work itself out of Lancashire's system were there, on the *old scale, a world demand for Lancashire goods.*

Isn't there? Then why do some of the efficient combines pay high dividends like the Calico Printers and the Fine Cotton Spinners? Perhaps they pay them on smaller productions which implies less employment than before the war.

But it is the American section which is the sufferer and, very likely, fine cotton spinning will remain what it has been practically a Lancashire monopoly. Fine yarns, spun from long-staple cotton, chiefly Egyptian-grown, are a highly skilled department, and the Lancashire tradition of workmanship is not in danger of *effective challenge*. The use of artificial humidity in cotton mills has deprived Lancashire of the uni ue benefit of its original and natural advantage: the superiority of the Lancashire spinner over all others abides and manifests itself *most palpably in fine spinning.*

The Threat from the East.

"Coarse" spinning of American cotton was vulnerable because its techni ue is simpler, and the reason why *Lancashire is spinning less* than she did is that the rest of the world is spinning more, while demand has not only not increased but has decreased since the war.

Artificial silk might be supposed to be a cut-throat rival of cotton: it is, as a fact, hardly noticeable as a competitor and, indeed, in many cloths, such as curtainings, is rather an ally than an enemy.

No: *the trouble is the East and the Yellow Peril is, for Lancashire, not a vague menace but a hard economic fact.* The situation may be expressed by saying that Lancashire shipped the artillery which is now shooting at her. Lancashire is coal and iron as well as cotton, and, arising out of these three, she is the world's textile machinist.

For fifty years and more, Lancashire has exported textile machines. Gradually, under the tuition of Lancashire operatives who went abroad for that purpose, the foreigner ac uired technical skill almost the e ual of his instructors.

One can hardly see the textile machinists as the villains of the piece. If Oldham and Accrington engineers had not made the machines, the foreigner, sooner or later, would have made them for himself and some machines, anyhow, such as the gins used on the cotton fields themselves, were of general benefit to the industry, while payments for actual spinning-mules and looms came into Lancashire pockets. The unavoidable snag is that the machines, having been set up abroad, are used in competition with Lancashire, who is hoist with her own petard. England, the inventor of cotton machinery, has to face the fact that, to-day, she owns only about one-third of the world's spindles.

The competition which, beyond all others, is most dangerous is that of China and Japan. Lancashire's foreign trade was predominantly with the Far East. India was, and is, her leading customer and the demands of the Far East are now being met, increasingly, by the mills of China and Japan.

Roughly speaking, the "living-in" system is general in the mills of China and Japan, and girls' wages are about a shilling a day for a twelve-hour day, seven days to the week; and eventually, no doubt, the Labour Bureau of the League of Nations will take action about Far Eastern industrial conditions.

WORKING AT A LOSS.

Meanwhile, Lancashire can draw what satisfaction she can from the thought that the bulk of the Far Eastern equipment is Lancashire-made. Up to the war, indeed (when American textile machinists gained a footing), China's machinery was 100 per cent made by Platt Brothers of Oldham.

Mention of America leads one to point out that Lancashire is not the sole sufferer by the industrialism of the Far East. There are, also, America and Europe, but of these two continents it is the situation in America which may have reactions for Lancashire.

Europe, generally, is working on an unremunerative basis, about 75 per cent of normal production. Broadly, that is also the Lancashire condition. As to the States, a special investigation in 1928 reported to the International Federation of Master Cotton Spinners' Manufacturers' Associations that 25 per cent of the industry is working at a profit, 25 per cent neither at profit nor loss, and 50 per cent is losing.

America is impatient and traditionally quick to scrap unprofitable plant. At present a high proportion of American textile plant is unprofitable—and America is prosperity-mad. One would not put it that England may come in for America's leavings, but that America may *decide to end her fifty years' raid upon the* Lancashire cotton stronghold. For, let it be clear that stronghold is essentially stronger than ever and, always unassailable in quality, Lancashire cottons are now unassailable in variety.

—BUT STILL CHAMPIONS!

No doubt the mass-demand will come back Why shouldn't it? It is only a trifle of ten years or so since the war, and trades which have prospered since that affair are, oddly enough the luxury trades. Cotton is not a luxury trade. That is why there is room for eventua optimism about it. Lancashire is humi still.

They look comic when they come up in thei tweed caps for the Cup Tie Final (but isn't tweed cap considerate of the view of the ma behind?): their cricket hasn't the grace the southern game (though they hold th Championship), and Lancashire is not a place which to go for a week-end (though Conisto is there and Blackpool), and the bluebells Belmont over Bolton-le-Moors leave smok grime on the hands that pluck them among the dirty-woolled sheep.

Flanders is war's cockpit, Lancashire tl cockpit of industrialism and it is fitting remember these matters when thinking of La cashire as unlovely. There is, indeed, a bett word for them than the word no Southr understands—the word "jannock".

Elaborate plans for the solution of the traffic problem in Venice have been prepared by the city authorities, and although it is not unlikely that the proposals will incur the lively criticism of traditionalists, they should have the effect of greatly facilitating transit in the "Queen of the Adriatic." It has to be remembered in this connexion that Venice is not only a great holiday centre, but is also a large and thriving modern city, in which a great deal of business has to be done. The new proposals provide a widened bridge alongside the present railw bridge connecting Venice to the mainland; new canal through the heart of the city, cutti out one of the loops of the Grand Canal, a a subterranean tramway line running throu the city from the Venice end of the prese railway bridge. The tramway line would tw pass under the Grand Canal, once near the r way station and again at the Rialto Bridge

Village Economic Surveys in Mysore.

By D. Krishna Iyengar, M.A.

"The basis of man's activity is the desire to satisfy his wants." The fundamental and primary want of man is food. Consequently, in any scheme of Economic Reconstruction of a country the production of food supply in sufficient quantities to meet the local requirements, must play a very important part. This problem of sufficient production of food supply in a country of villages, like Mysore, where agriculture is the main industry of the bulk of the population, has become one of the important topics of the day.

In Mysore 85 per cent of her total population live in villages. The economic condition of the agriculturists in these villages as a whole is unsatisfactory and the food that is being produced is insufficient. Not only is the rural population numerically greater, but also less educated, less civilized, and less organized, and therefore less able to help itself than the urban. Agriculture here is almost in a stationary condition. The President of the Representative Assembly in 1919 said: "It is incumbent on us to see that we grow sufficient quantity of food grains in normal years and that sufficient quantity is always retained in the country in order that we might not throw ourselves every time on the generosity of our neighbours in British India at the first sign of the failure of the monsoon rains." This is a note of warning to the agriculturists here.

A thorough study of the available and neglected statistics of our country shows that the total cropped area has been decreasing from decade to decade and that the total area of occupied land left fallow is showing an increase. About 28 per cent of cultivable land is yet to be cultivated. There is nothing to show any general increase in the acre yield of crops. Besides any large outlay on irrigation in our State has not yet been well compensated either by a substantial increase of area or income. To be brief, the materials available at present for farming an estimation of economic condition of the rural parts and people are very scanty and unreliable to some extent.

That Mysore has been and is mainly an agricultural country and therefore that it is a country of villages is known to everybody, but little is known about them and the people who live there. The term "village" includes a cluster of houses situated on an inhabitable site and the surrounding lands generally cultivated by the people residing in these houses. It is commonly a community more or less self-contained. A writer on village organization says, "It raised sufficient food to nourish its population. Its own corn and oil was adequate for its inhabitants and it had enough cattle for milk and agricultural purposes. In fact the real beauty and strength of the village system was in the simple harmony between capital and labour." Such an ideal village has become the dream of the day. Most of our villages have lost their charm and beauty which they were once possessing.

With the advent of British rule in India administration in villages began to be carried on by rules and regulations on British lines. Police work, Public works, such as roads and tanks, Forest and administration of Justice, all fell within the jurisdiction of Government by one act or another. This extension of Governmental function merely dispossessed the village communities of the local powers and privileges enjoyed by them from time immemorial. The result of this is that it has become a common talk that in many a case the aggrieved party suffers the wrong done quietly in preference to complaining to the legal authority which involves that party in a great deal of inconvenience, loss of time and money and complexities of the law. The villages gave up the work of public good, namely, village roads, tanks. Even wells of the village fell into decay. Here and there people begin to set up agitations to get these kinds of work done by the Government. The habit of not doing work for the welfare of their own village, is growing every day and the people begin to look up to the Government for everything. "In the wake of civilization," says an Economist, "there has been numerous changes in our villages. The village exports its food to pay for peace and protection and to keep the town alive, and correspondingly it starves. It exports more than thirty per cent of her foodstuffs for cloths from foreign countries, sugar from Java, match-box from Sweden and Japan and kerosene oil from America. The worst evil that has befallen is perhaps the qualitative depletion of the best men of the villages."

The present position of our villages is far from satisfactory. With an unscientific and antiquated system of agriculture the ryots are ignorant and are opposed to any progress, moral as well as material. The system of education that is prevailing in these parts

touches none of these things and only makes the educated desire to escape elsewhere. They have no energy for anything but winning bread. *Their method of agriculture and of* living are so wasteful and uneconomic and primitive that even though they work hard they are never far from the margin of safety. The schemes on co-operation, village panchayat *and village courts, that are being introduced* from time to time into these villages have brought about party spirit, lazy atmosphere, and communal conflicts among these villages which makes one think that the remedy is nearly as bad as the disease.

Even in the collection of the village statistics and records the same story of inefficiency and dissatisfaction is repeated. The most important village records are *Khetwar patrika* or agricultural field register, *Pahani* or an agricultural record, *Khate* or fiscal account, and *Khaneshumari* or a record of economic resources of the village. All these in their present form and *according to the existing arrangement*, would not be useful to get a bird's eye view of any village unless they are modified and improved. It is believed in theory that all these accounts are to be compiled by the Shanbhogue or *village accountant in conjunction* with the Patel and the villagers. But in practice they are written by the Shanbhogue himself single-handed and not very often the very same figures are renewed every year. Though every review by Government deplores the inaccuracies of these statistics, yet nothing has been done or devised to make this most important and useful data clear and accurate.

In our villages the struggle for existence is growing more and more acute and many are the obstacles in the way of progress. The suspicion of the ryots that anything done by the Government must be selfish and cannot possibly be *for their good, is very great and again the* low rate of wages for all kinds of labour is another great obstacle. Most of our villages are filthy and the villagers very often live unhealthy and uncomfortable lives and thus become a prey to epidemic diseases. They waste much of their wealth in litigation and other things and pay very little attention to their home. They spend no thought in bettering *themselves and they resist all changes* because they are illiterate and ignorant.

Comparing some of the villages that come under our observation we find that a village with a school is no better than a village without *a school and a literate boy is no better than an* illiterate boy and all live alike amidst the same uneconomic and unhealthy conditions. The system of education and the facilities for schooling that have been provided in these parts are no better than the proverbial square *peg in a round hole, and the educated boys often* migrate to towns because they find the rural environment dull, dreary and disagreeable. Thus the present position of our villages is very unsatisfactory. But it is not beyond hope *of redemption.*

A writer on Rural Reconstruction suggests that the greatest thing that a social worker can do in a rural area, is to make people realize the benefits of working during time of unem*ployment upon some bye-employment and the* usefulness of a rise in the standard of living. The most important thing is to make them see the advantages of home industry such as knitting, basket-making, spinning, tailoring, and vegetable gardening. Again voluntary association for consolidation of holdings, co-operative bargaining in renting other's lands, repairing canals and channels co-operatively, *are some of the economic specifics which the* villagers will find most useful.

Mr. F. L. Brayne of the Punjab has suggested the introduction of village guides into the villages and such a guide will reside with them *doing all kinds of propaganda work.* "The villagers" says Mr. Brayne, "would simply be delighted at the chance of getting rid of their miscellaneous visitors and glad to receive a resident worker who can help them in all their troubles and be a real guide, friend and philosopher. The very fact that they were not given any bureaucratic name such as Inspector or Superintendent, etc., may help to impress on *them that they are helpers and servants but* not officers and petty tyrants." Their duty, according to him, is to do public health work, preach and teach agricultural demonstration, self-improved implements, in short, do every*thing that tends to village uplift. If they do* their duty properly, they will be the trusted friends and advisers of the village. They will be judged by their work and its results and on their appointment will begin a new stage *in practical village work.* Mr. Calvert praising this scheme says that a good guide will have a book for every village with a page for every family and he will fill in the details from time *to time and he will keep the information as* confidential.

The more urgent and important thing than the introduction of any well-thought scheme is to know the exact position of our villages. *Instances of incorrect data or misapplication of* theory are not uncommon in economic problems like these. "Know thyself" is a dictum no

less useful to the village as to the individual. It is only after making thorough investigation of the needs and resources of the villages one should turn one's attention to village *reconstruction, and the* best method to understand the exact economic position of our villages is by carrying out economic surveys in some typical villages.

An economic survey of a village deals with all the aspects of village life which has a bearing upon the economic welfare of its inhabitants. Such a survey should make it possible to formulate general principles which the intelligent farmer may apply to his own case.

The usual and recognized form of conducting any form of enquiry is by issuing a standard questionnaire and taking evidence of persons known to be interested in the concerned subject. Special emphasis has been laid upon it by the Indian Economic Enquiry Committee. In rural economics, especially the diversity of climatic condition, difference in methods of cultivation, and disparity in the income of the masses and their habits of living, make it impossible to arrive at generalizations applicable to the whole country, as a result of investigations carried out in a few villages. Therefore villages should be selected which are typical of the different economic regions of the country.

In this connection it is gratifying to note the Department of Economics of the Mysore University has published "A Plan for Village Surveys" which enables the investigator to make a thorough and searching analysis of village condition. To quote from it: "An economic enquiry of the village must be intensive and exhaustive. The investigator should settle down in the village for a considerable time, keep the various economic activities of the village under observation, collect information from the people and test its accuracy by the information supplied by the officials and always draw upon the actual facts of rural life and never upon his own imagination however vivid it may be. The data necessary to make up an accurate picture of the village may not be found in one single place or in all the village records. There are several sources of information, official and non-official, recorded and unrecorded. The investigator will have to tap all of them."

The primary object of a village survey is to present a true picture of the economic position of the villages in all aspects of their life. It should deal with social factors which have an economic bearing such as vital statistics of the village, education, administration, health and sanitation and occupations of the village. It should make a detailed study of economic factors, such as method of cultivation, farm costs, village industry, purchase of village requirements, sale of village produce, rents and tenancy, size and fragmentation of holdings, price and sale of land. Lastly, it should analyse problems relating to village taxation, rural indebtedness, family budgets and standard of living.

It is proposed in some quarters that a revenue officer of a district or a taluk might do this work efficiently as he is well acquainted with these parts already. It is true that officers like Keatinge, Calvert, Derling and Jack, have done valuable work in the study of rural economics. But still in actual investigation a revenue officer, if entrusted with the task of economic investigation, is sure to encounter several difficulties. In the first place, he is usually found to entertain an exalted notion of his rule. He believes that his is the best form of administration which hardly admits of any improvement. If anybody finds any wrong he would explain it away in some manner and if pressed to a point, he would put it down as of little consequence. Further as a Government official it is obligatory upon him to support the Government in all matters and therefore his survey cannot be a true picture of the village. Moreover as an officer whose duty it is to fix land revenue and assess the incomes, his good intentions are looked upon with suspicion by the village folk. Any amount of compulsion or persuasion by him would not enable the rustics to give out the truth with regard to the yield of the land or size of his income or sale of his produce.

The Royal *Commission of Agriculture have* come to the conclusion that the best agency for rural surveys is the University. *To make* their meaning precise the teachers and students *of the University are well equipped for such* work. The surveys made by them would be of real scientific value. *A large proportion of* the students come from the country and are *more or less familiar with the village conditions.* Since they have no axe to grind and since *their method of approach is one of engaging* friendliness towards the villagers tempered with love of truth, they will be able to penetrate the recesses of the economic life of the country side and bring to light *facts and figures so far* hidden from view by a suspicious and conservative peasantry.

The writer as a research student of rural economics has done a village survey in Mandya Taluk. Throughout the essay he has drawn

upon his own experiences. He was in a position to test the theories and hypotheses of the library with the concrete facts and the actual changes that are taking place in the outlook of our horny-handed peasantry. There can be no rural reconstruction without rural study. The former is the task of agrarian statesmanship, while the latter is the peculiar responsibility of the teachers and students of Rural Economics.

Bombay Strike Enquiry Report.

By "Scrutator".

The Court of Enquiry under the Trade Disputes Act, which was appointed by the Government of Bombay on the 3rd of July 1929, has issued its report. The Hon'ble Mr. H. G. Pearson, Bar-at-Law, a Judge of the High Court, Calcutta, was the Chairman and the other members were Mr. F. S. Taleyarkhan, Bar-at-Law, and Mr. Rupchand Bilaram, B.A., LL.B., Additional Judicial Commissioner in Sind.

The Court of Enquiry was set up to enquire into the strike that then existed in the textile mills in Bombay city and the terms of reference to the Court were as follows :—

1. To inquire into and ascertain the exact nature of the dispute or disputes between the employers and workmen of the abovenamed mills which led to the strike in those mills in March and April 1929.
2. If there was any such dispute, to what extent the employers or workmen or both are responsible in matters connected therewith ?
3. What are the causes of the prolongation of the strike ? Whether the employers or workmen or both are responsible for such prolongation, and if so, to what extent ?
4. What are the difficulties in the way of a settlement of the dispute or disputes between the employers and the workmen ?

The sittings of the Court commenced on the 6th July 1929 and continued till Wednesday the 21st August 1929. In all there were 29 sittings in the course of which 35 witnesses were examined. The parties who appeared before the Court were (1) The Millowners' Association, representing all the mills affected by the strike, except the Jam Mills, (2) The Girni Kamgar Union, (3) The Bombay Textile Labour Union, (4) The Bombay Girni Kamgar Mahamandal, (5) The Bombay Mill-workers' Union, and (6) The Jam Manufacturing Co., Ltd.

The opening paragraphs of the report refer to the suggestions made to them that Mr. Dange, and possibly some others, who were standing their trial at Meerut should be called to give evidence on the ground that they, being the officials of the Girni Kamgar Union, prior to their arrest on the 20th March, were the proper persons to depose to matters relating to the affairs of that Union prior to that date. The suggestion was not given effect to because, in the opinion of the Court, it would not be right for them, sitting as a Court holding a judicial inquiry, to touch in their proceedings upon any matters connected with the issues which arise in the trial at Meerut or to express any opinion, or to come to any finding, which might operate to the prejudice of the persons accused in the case. For the same reasons, the Court in the course of its enquiry disallowed certain questions concerning these men at Meerut which were objected to by the representatives of the Girni Kamgar Union.

On behalf of the Millowners' Association it was contended that some of the officials of the Girni Kamgar Union were communists and were utilizing the Girni Kamgar Union as a cover for their communist activities. They placed reliance, *inter alia*, upon certain leaflets of the Union, articles in the "Kranti" and speeches made from time to time by Union officials. Upon objection taken, the Court was of opinion that such an investigation could not be taken in their enquiry as it might trespass upon the field of enquiry in the Meerut case. Accordingly evidence, directed expressly towards that point, was excluded and the Court did not take the matter into their consideration.

In discussing the nature and scope of the enquiry the Court points out that it was unnecessary to go over the ground already covered by the Fawcett Committee. Moreover, they have refrained in the Report from making any suggestions either to the millowners or to the Labour Union, in respect of any matter in dispute between them, as such a course was not within the terms referred to them and was therefore outside the scope of the enquiry.

The Report next reviews the situation in the textile industry in Bombay from the year 1925 and reference is made to the Noyce Committee's Report and the Fawcett Committee's Report and the suggestions made therein.

The Report of the Fawcett Committee was published on the 26th March 1929. Between the settlement arrived at in October 1928 and the publication of that Report, the extremist leaders of the Girni Kamgar Union made strenuous efforts to increase the number of their members to collect subscriptions and

to prepare their members for the contemplated strike which they had intended to bring about at the end of six months.

"There is ample evidence to show," says the Report of the Court of Enquiry, "that in the middle of November the Girni Kamgar Union had collected sufficient strength and that the effect of its policy was being keenly felt by the millowners. One of the chief grievances of the millowners, which is said to have caused most of the strikes that took place from the middle of November, was the working and methods of the Mill Committees formed by the Girni Kamgar Union for each mill and the doings of the members of such Mill Committees." The Report then examines the constitution of the Girni Kamgar Union and points out that the functions of the Mill Committees were stated to be "purely advisory". It, however, appears that, prompted by the officials of the Union, the Mill Committees arrogated to themselves some of the functions of the Managing Committee. Not only that but each member of the Committee considered himself justified in performing those functions upon his individual authority including the power to call a strike—a power which, upon the construction of the rules embodied in the constitution, the Court of Enquiry holds—was vested in the Managing Committee of the Union. This caused considerable friction between the workers who were members of the Mill Committees and the mill officials, resulting in several lightning strikes. The interference by the members of the Mill Committees with the management was subversive of discipline and the lightning strikes, which were brought about by these members, were not such as could be tolerated by the millowners. This naturally led to certain disputes and the Report deals in detail with some of these disputes which are of considerable importance in understanding the state of affairs which prevailed in the months of March and April 1929. The first was the strike in the Spring Mill in November 1928 as the result of which there was considerable correspondence between Sir Noss Wadia and Mr. Dange, culminating on the 23rd November 1928 in an agreement signed by the Union officials, Messrs. Alwe, Kasle and Dange which reads as follows :—

"With reference to our interview this morning, on your consenting to re-open the mills, on behalf of the men we give you an assurance that they will work peacefully in future, that they will not indulge in any lightning strike without first putting through the regular channel any grievances they may have, and that they will obey all disciplinary measures of the mill as were in force before the general strike, and that they will clean their machines as they used to do before."

On the same day Mr. Dange wrote another letter informing Sir Noss Wadia that the agreement was an assurance given by the Union on behalf of themselves as well as the workers and the jobbers.

There was similar trouble in other mills and it appears that Messrs. E. D. Sassoon & Co. obtained a somewhat similar agreement, dated the 5th December 1928, from the Union officials before the firm would start work after the strike in their mill.

The Report then refers to the trouble in the Pearl Mill belonging to the Currimbhoy group when there was a lightning strike on December 22 on account of the refusal by the management to re-employ one Papa Miya who had voluntarily resigned his job two days earlier. The mill remained closed until the 26th December when work was started after Papa Miya had submitted a letter of regret for his conduct and given an undertaking in writing that he would do all he could to prevent lightning strikes in future.

Fifteen other members of the Mill Committee also gave an undertaking to the like effect. On December 29, Mr. Davar, an assistant in the Mill, was brutally done to death. The trial resulted in Papa Miya being sentenced to capital punishment and to several other operatives being sentenced to long periods of imprisonment. The Mill Committee in this particular department consisted of five workers, four of whom were involved in the murder above mentioned, one of them turned approver and the remaining three were convicted.

The Court of Enquiry refers to the issue of the *Kranti* (a paper published by officials of the Union) of the 20th March 1929 which "contains some astounding comments on the trial and conviction of the accused in the above case." The Report sets out the pertinent passages and says "these passages speak for themselves and the evil effects of such extremist preaching on the minds of the workers, the majority of whom are illiterate, can well be imagined." The Report then makes a few general observations on the working of the Mill Committees and says that several of the disputes should have formed the subject of negotiations between the parties and, failing a private settlement, the subject of a reference to the Fawcett Committee. "We are not prepared to attach considerable blame to the Girni Kamgar Union officials in respect of such

strikes as took place in the month of October and the first part of November as we do not think that their Mill Committees had till then commenced to function. But we do think that if the Girni Kamgar Union officials had confined themselves to a proper administration of the Union affairs according to the constitution and had exercised their good offices in that behalf several of the strikes and the consequent misery resulting therefrom would have been avoided." According to the constitution of the Union the medium for settling the disputes between the workers and the millowners was the Managing Committee and not the Mill Committees whose functions, as pointed out above, were "purely advisory". In practice the power was treated, as conferred, not merely on the Mill Committee acting collectively but on each officer of the Mill Committee, an act on the part of the Girni Kamgar Union which clearly disclosed a revolutionary tendency. The strike was considered to be the first weapon to be used at each and every turn by any member of the Mill Committee instead of its being the weapon to be used in the last resort, after due deliberation, by the executive of the Union after consulting the wishes of the workers. There is no evidence that, with reference to these strikes, any attempt was ever made to secure the prior assent or subsequent confirmation of the Managing Committee. Apart from the fact that no minutes of the Mill Committees appear to have been kept in most of the mills to serve as a record of what transpired there, it is not disputed that the President and certain office-bearers of the Managing Committee and the Centre Committee who by rule 15 were ex-officio members of each Mill Committee, were neither present at such meetings nor even notified to attend. The troubles caused by the exercise of such wide powers by the members of the Mill Committees may well be imagined and evidence had been led before the Court to prove the chaos which had been caused during this period by young, inexperienced and illiterate operatives asserting their authority in various ways. The report gives examples and says: "It will thus be seen that the Mill Committees were functioning unconstitutionally and their members individually were indulging in unwarranted interference with the working of the mills."

The Report then sets out the main facts with regard to each of the disputes which were in progress during the months of March and April, 1929, prior to the general strike which took place on the 26th of April. Evidence was only led with regard to the strikes in the Spring, Textile and Morarjee Gokuldas Mills. "The strikes in the two former mills have formed the pivot of the discussion before us," says the Report, "and we therefore propose to deal with them at some length." Discussing the case of one Dhondu Bhau, the Court of Enquiry are of opinion that the conduct of Dhondu Bhau was such that it rendered him liable to be dismissed even before the 14th of February. No mill could be worked if workers play the role of the management and issue orders of the nature given by Dhondu Bhau, but Dhondu Bhau having left the mill on the 14th of February (under the circumstances set out in the Report), no question could possibly arise of his having gone on leave and of his claiming to be reinstated on the 1st of March. But whether the refusal by the Manager to reinstate Dhondu Bhau was justified or not, there can be no doubt that the strike which followed was a clear breach by the Union leaders of the agreement of the 23rd of November. "We have no hesitation in holding that this strike was absolutely unjustified and that it was the clear duty of the Girni Kamgar Union to prevent the trouble." As regards the strike in the textile Mills the Court of Enquiry says that "nothing has been alleged to convince us that the refusal to reinstate the two workers was actuated by any improper motives against the Union, and the refusal of the Carding Master to reinstate one man did not justify the workers going on strike without putting up their grievance through the regular channel." As regards the strike in the Morarjee Gokuldas Mills, the Committee state that they are not prepared to hold that Ramachandra was not rightly dismissed on account of his unwarranted interference with the work of the mill, his neglect of his duties and fomenting trouble. The Committee briefly examine the other strikes and state that the strikes which preceded the General Strike of April 1929 were not justified.

The Report then deals with the immediate events leading up to the declaration of the General Strike on the 26th of April. The Fawcett Committee's Report, which was partly in favour of the workmen and partly in favour of the Millowners, does not appear to have brought peace in the textile industry, but after its publication there appears to have been no difficulty in both the parties sitting together in a conference convened by the Chairman of the Millowners' Association with a view to arriving at a settlement on the issues arising out of the Report. There were four meetings of the Joint Conference on the 8th,

16th, 22nd and 24th of April. The result of the Conference; arrived at *after full and friendly* discussion, should have settled many points of dispute *between the parties and brought* about an atmoshpere of peace and good-will *in the industry*, but this was defeated by the action of the leaders of the Girni Kamgar Union in suddenly bringing forward at the Conference certain alleged grievances, in addition to the demand for the reinstatement of 6,000 men of the Wadia group of mills, and insisting on those alleged grievances being investigated and remedied before proceeding further with the consideration of the Fawcett Committee Report. These grievances were as follows :—

(1) Victimizaton of the Girni Kamgar Union men.

(2) Obstacles to the Union activities by the management.

(3) Objection of the millowners to collection of subscription inside the Mills.

These were placed before the Joint Conference of the 16th April and, at Mr. Mody's request, a specific statement giving details was furnished to the Association by the Girni Kamgar Union's letter of the 18th April, received by the Association on the 19th and *communicated by them to the individual mills* concerned on the 20th April.

In the meantime on the 17th April, the Kranti came out with an article headed "Will There be a Big Strike". There was another article in the *Kranti* on the 21st April *with the heading "Why and How to declare a* Strike".

At the meeting of the Joint Conference held on the 24th April, on a difference arising between the Girni Kamgar Union and the Millowners on the question of the method of investigating the cases of alleged victimization, the Girni Kamgar Union's representatives declined to proceed further with the Conference and within 48 hours thereafter, *i.e.*, by noon on the 26th April, called out a general strike of the *entire textile labour of the City.* The Report says :—

"It may be mentioned in this connection that the Bombay Textile Labour Union, a well-established body *of workers and founded long before* the Girni Kamgar Union, were also a party to the Joint Conference and, while it was anxious that the alleged grievances put forward by the Girni Kamgar Union should be investigated thoroughly and speedily, it declined the Girni Kamgar Union's invitation to join in the general strike and, on the contrary, condemned it as unjustifiable and against the interest *of the workers.*"

"It is unnecessary to enter into a detailed discussion of the evidence of the three important witnesses, *viz.*, Mr. Mody, Mr. Deshpande and Mr. Bakhale as regards what took place at the meeting on the 24th April. It will suffice to state that the difference which arose was due to the suggestion of Mr. Deshpande that the Girni Kamgar Union should be at liberty to lead evidence on each and every case of victimization that it might bring forward, which suggestion was not accepted by Mr. Mody, on the ground that it was impracticable. Mr. Mody *suggested that two or* three cases might be picked out to be treated as test cases to be gone into fully. This was not accepted by Mr. Deshpande and it was thereafter suggested by Mr. Bakhale that a Special Sub-Committee should be appointed for investigation of such cases. Mr. Mody appears to have been ready and willing to consider the suggestion if it were *brought forward by the Unions jointly* or was agreed to by the Girni Kamgar Union. The latter, however, did not accept the suggestion and left the Conference remarking that thereafter the Girni Kamgar Union was free to adopt such course as it thought necessary."

"The following are circumstances relating to this period which it is important to bear in mind. The charge of victimization by the Millowners, or some of them, beginning from the 1st March was never brought to the notice of Mr. Bakhale until the 13th April, or of the Millowners until the 16th. If it was so palpable and so glaring as is now made out one would have thought that it would make its appearance earlier. *Mr. Deshpande is unable to point to any particular act* or fact between the 6th April, when the first meeting of the Joint Strike Committee was held, and the 13th April, when the grievance was first put up before Mr. Bakhale, which led to the formulation of this as a grievance only on the latter date. All he can say by way of explanation is that he was looking at things *then from a fresh perspective of the situation. Again* the issue of the *Kranti* on the 17th with its headline "Will There be a Big Strike" is a remarkable incident considering the situation at that time. Matters at that moment had progressed only so far, that grievances had been formulated on the 16th to the Millowners and they had promised investigation and *redress. It is remarkable too* that Mr. Deshpande, who was responsible for that paper and that heading, was an official of the Union and a representative of the interests of the workers in the negotiations and therefore was directly in touch with the exact situation. It is no wonder, as Mr. Bakhale puts it, that such a premature declaration should create suspicion about the intention of the Union in the minds of the other parties to the negotiations and strike a blow at the calm and peaceful atmosphere on which the Girni Kamgar Union had laid so much emphasis in dealing with the Fawcett Committee's Report. This is certainly another consideration which *reflects upon* the *bona fides* of the representatives of the Girni Kamgar Union and adds to the strength of the suggestion that the leaders were determined to precipitate the strike in any event. The further article in the *Kranti* of the 21st is open to the same comment having regard to the situation then existing. Another fact pointing *the same way is that, although, according to* Mr. Bakhale, a statement had been made by Mr. Lalji Pendse on the 16th April that his Union was not thinking of a General Strike, the Union's letter of the 18th April twice contains mention of a general strike *and moreover this suggestion* was made over the head of Mr. Bakhale and his Union who were not consulted *prior to that letter and were not even sent a copy* of it."

The Report then goes on to deal specifically with the merits of the demands put forward by

important difficulties in the way of a settlement is that at present there is no machinery for bringing the parties together and there is very little possibility of contact between workers and millowners. The Mediation Rules of *the Fawcett Committee agreed to by the parties* are inapplicable, for they are only appropriate to the position before the strike and not after it has taken place. There is no joint tribunal of arbitration and the Board of Conciliation contemplated by the Trade Disputes Act, 1929, could achieve little result unless it was supported by the good-will of the parties concerned.

To sum up, the main causes of the prolongation of the strike are :—

(*a*) the aggressive and mischievous propaganda of the officials of the Girni Kamgar Union and inflammatory appeals made by them to the workers.

(*b*) Picketing and intimidation by the strikers and acts of violence committed by them on non-strikers. One of the reasons why the mills are not working at full strength is that a number of strikers who left for their homes have not been able to return as the monsoon is not over.

"In our opinion the blame for the prolongation *of the strike rests mainly upon the officials of the* Girni Kamgar Union."

"The main difficulty in the way of settlement is the uncompromising attitude of the officials of the Girni Kamgar Union; but we think that there is an undercurrent of discontent amongst the workers due, *inter alia*, to (*a*) the proposed cut of $7\frac{1}{2}$ per cent in the wages of weavers; (*b*) the fear of unemployment in consequence of the proposed introduction of the efficiency scheme; (*c*) the non-payment of April wages. Full advantage has been taken of these causes by the officials of the Girni Kamgar Union in fomenting unrest and prolonging the strike. Some of the other difficulties in the way of a settlement are the absence of contact between the millowners and the workers, and the absence of any machinery such as an arbitration board to settle disputes as they arise.

Self-Determination at School.

By Amabel Williams Ellis.

I know two modern children who to my mind, anyhow, are very much spoilt. Drusilla is nearly fifteen now, and her parents are watching the outcome of their upbringing with consternation.

She is asking to go out to dances with young men (of her own choosing), she wants to go out for drives in their cars at week-ends, she uses lipstick and powder, and last week she said that she couldn't bear to think of her mother sitting up for her any more, but that it would be "much less bother" if she had a latch-key.

The other child who terrifies me, also a girl, is alarming in quite a different way. Betsy has been taken to the Stage Society's shows or to some sort of theatre of an advanced and modern kind by her father every week since she was six.

She is now twelve, and can tell you a great deal about both the architecture and the theatres of Berlin, Paris and Vienna. And she has seen so many pictures that one of her most deadly terms of condemnation is that a picture is "pretty"—in fact studio patter is one of the weapons which she uses to deal with her elders.

Frankly, I wonder what is going to happen to Drusilla and Betsy, for if they go on as they are at present they will have run through all the pleasures natural to their very different natures by the time they are eighteen.

They both have excellent constitutions, so that leaves them a probable balance of fifty years in which to be bored.

There is another sort of modern child, whom some people rank as spoiled, but who is quite different from these two. He or she also probably goes to a "modern" school.

Philip, for instance, now aged five, produced consternation in his home by declaring that he would not stay in the class to which he had been assigned at school, but meant to join the class above it.

It is a modern school, where no compulsion of any kind is supposed to be used. His reason for preferring the senior class was nothing so priggish as that he thought he could do the lessons there, but a great liking for the teacher.

Primrose is another modern child who would have appalled our grandmothers. She had to be taken away from her first school. If she had not been, she would have run away. She has threatened her parents that if they ever send her to a boarding school again, she will run away at once, and when boarding schools are talked of, she ostentatiously takes up the local A.B.C. to calculate what the fare home would be. But while she is allowed to live in the country and to go in every day to a day school in the country town she is extraordinarily popular and happy. She is thirteen, and can turn her hand to anything.

She is accomplished camp cook, thinking nothing of buying and cooking a complete dinner for a family; she can milk a cow and mend bicycle punctures.

I know a fair number of "modern" children because we are in the thick of the business our-

selves, having a family which ranges from seven to eleven in age.

We and our own friends all bring up our children a little differently, and we can and do all claim that we are right.

But I think if I were a Royal Commission and had from my eleven years' experience to offer interim advice on bringing up children, I should say something like this:—

First, as to discipline, don't be so just to your child that you are unjust to yourself. Parents have rights as well as children. Men particularly will get desperate if their home seems entirely to belong to the children.

On the other hand, realize that most of us are sometimes cross with our children, not because their conduct is bad, but because it is *inconvenient*.

Second, as to pleasures. Never let a child see a three-ringed circus before he has exhausted his joy at a one-ringed circus. That is to say, let your child enjoy every kind of simple pleasure.

Thirdly, in general, if you find your modernly brought-up child has rough hair and grubby hands and is alarmingly out-spoken, while his little cousin sits like a mouse and says "Yes" or "No" just when he should, console yourself with the thought that you probably know the worst of your child, while your brother and sister-in-law probably are in an ignorance that may or may not ultimately be happy.

And finally, remember that your child will be a child for eighteen years at the utmost stretch, while with any luck he will be a grown-up person for twice or even three times as long. Don't sacrifice the fifty years to the eighteen.

Then remember, Battles with schools or the disapproval of your family-in-law may be the price you have to pay for doing "the right thing" as you see it for your child. If so, go ahead.

Physical Training of Pupils.

By Rama Banajiga, B.A.

The Report of the Committee appointed to inquire into and report on the question of physical training of pupils in Primary and Secondary Schools in the Bombay Presidency is a suggestive one. The Committee was appointed in October 1927 with Mr. K. M. Munshi as Chairman and Messrs. H. R. Hamley, L. B. Bhopatkar, Dr. S. B. Mehta, Miss B. H. Motiwala, Khan Bahadur Shah Nawaz Khan, Ghulam Murtaza Khan Bhutto, Mr. C. B. Purani, Mr. J. G. Gune and Mr. K. R. Kanitkar (Secretary) as members. Messrs. B. G. Jagtap and Jairamdas Daulatram were subsequently added to the Committee. The terms of reference were as follows:—

(1) To review the measures hitherto taken for the physical training of pupils in public Primary and Secondary Schools; (2) To determine the results achieved by these measures; and (3) To suggest further measures for the improvement of the present position, *e.g.*, provision of well-graduated courses of Physical Training (including, if thought advisable, formal gymnastics) and free games with reference to indigenous games and exercises as far as possible suited to pupils of different ages and in different stages of school instruction; provision of Gymnasia, play-grounds, etc., in connection with public Primary and Secondary Schools; offer of grants-in-aid to *akhadas* or gymnasia which admit pupils of public Primary and Secondary Schools for Physical Training; reservation of Government, Municipal and District Local Board open spaces in villages, towns and cities for use as public play-grounds, and offer of grants-in-aid to Municipalities and District Local Boards for the provision of open spaces in areas subject to their authority for use as public play-grounds; (*ii*) To consider the question of the introduction of compulsion for physical training in Primary and Secondary Schools and the steps and measures necessary therefor; (*iii*) To consider and report upon any other matter which may be germane to the above general question. The Committee held 25 sittings, received 130 statements and examined 63 witnesses. Their report contains 86 pages with appendices and is priced at annas four.

After a preliminary discussion of the general aspects of physical training, the Committee survey the existing conditions of physical education in schools, both in the city of Bombay as well as in the mofussil, and record certain conclusions which may be summed up as follows:—(*a*) the physical training as at present given in High Schools is inadequate, not well distributed and unsystematic; (*b*) except in some places in the Northern Division and Central Division, there has been no official effort to introduce systematic compulsory physical training in primary schools; (c) health

observe they are disappointing. Physical education of girls is only found in secondary schools and institutions conducted by foreign agencies on Western lines. Other institutions treat physical education as more or less an ornamental part of the school programme.

The Committee's recommendations in regard to girls include the introduction of Indian exercises and games in the purely Indian girls' schools and the appointment of a Physical Directress for the Presidency. She will be an Indian with experience and will be an *ex-officio* member of the Board of Physical Education. She is to get the salary and status of the Inspector of a Division. The Directress will be assisted by Lady Supervisors, one for each Division. The Supervisors should introduce in all the primary schools of the districts of her Division a suitable scheme of compulsory physical education. A monthly grant of about Rs. 25 is recommended to be given to every recognized institution for boys which would open a class for girls' training in the prescribed courses. The Directress should hold demonstration classes in different centres and conduct physical education propaganda. Government must acquire play-grounds or sanction substantial grants for the acquisition of play-grounds fo girls' schools.

The organization of a new Department lik that of Physical Education is a matter of som difficulty particularly when local condition have to be investigated, new men have to b trained, and a new syllabus has to be evolved The Committee therefore think that a period o five years will not be too long for the successiv stages of their scheme to be introduced.

The total cost of introducing compulsor physical education is estimated at Rs. 4,73,00 in so far as Government is concerned. This i based on the usual ratio of grants made t Municipalities and District Local Boards, a well as on the basis of grants-in-aid to privat schools. "It is difficult," says the Committee, "for us to stipulate the minimum perio within which Government should give ful effect to the scheme of introducing compulsor physical training in all the schools in the Presidency. It is up to Government to find th necessary funds as early as possible and meet the popular demand for improving the physiqu of the coming generation by introducing compulsory physical training in all schools."

Economics in the West.

Great Britain's Balance of Payments.

London, 31st October 1929.—Comparisons, admittedly, are odious; but that quality does not prevent them from being highly instructive. Indeed, very little can be learned at all except upon the basis of comparison, expressed or implied. The temperature on one day is "low", only in comparison with that on another day, or with some accepted average. Alternatively, it may be "low" in one place as compared with another, stated or understood. Similarly, there is little to be learned about the recent protracted weakness of the sterling exchange and the factors which have determined the external value of British currency except by a process of comparison. Acting on this principle, it is proposed to inquire into the causes of the weakness of sterling along the line of approach provided by statistical and other data relating to the balance of payments during the current year as compared with earlier periods.

Year by year the Board of Trade prepares estimates of our balance of current international payments, and the most readily available figures contributing to the account are those relating to commodity trade. In this respect we have at the moment statistics of imports, exports and re-exports recorded during the first eight months of the year. When these are compared with those for the corresponding part of 1928 we find that imports of all commodities, including silver, were practically unchanged in value; exports of British goods, however, were £11 millions higher, while on the other hand re-exports were £7 millions lower. On balance, therefore, our commodity trade, as recorded during the period, showed a debit balance £4 millions smaller than a year ago.

Payments for Imports and Exports.

The difference is so slight as to be almost negligible. It represents a reduction, possibly quite accidental, of little more than one per cent from the debit balance on commodity trade for the first eight months of 1928. It is, nevertheless, significant. Clearly, a large relative expansion of exports would mean a relatively stronger external demand for sterling; an expansion of imports the reverse. This holds good without question unless some change has

occurred in the terms of credit accorded to buyers. If, for example, while exports expanded, buyers were accorded longer terms of payment than in the earlier period, then obviously there would not be so great an expansion in the immediate demand for sterling as in the total value of exports recorded. The trade figures, indeed, provide of themselves no accurate measure of the items properly entering into the international balance of payments within any relatively short period.

Applying this fact to the figures quoted, it is not to be supposed that any radical change in customary terms of payment would have taken place in the course of a single year. Within the limits of business custom, however, it seems likely, in view of the increasing stringency of credit in this country, that British exporters may have pressed for more rapid payment, while importers would already have taken the maximum general advantage of the credit terms accorded to them by foreign sellers. In addition, the weakness of sterling this year would have acted as an inducement to foreign buyers of British goods to pay more promptly if possible, while sterling was cheap, and on the other hand would have suggested to British importers the desirability of deferring payment as long as possible in the hope of a cheapening of foreign currencies. Altogether, then, the tendency in 1929 as against the previous year has probably been towards a lengthening of the terms of British payments abroad and a shortening of the terms of foreign payments to Britain. Consequently, the slight improvement in the trade figures may be taken to disguise a more considerably reduced British demand for foreign currencies and a more marked increase in the foreign demand for sterling. It follows that on goods account alone no explanation can be found of the weakness of sterling: on the contrary, a factor of strength is revealed by examination of the figures of commodity trade and immediately related influences. Had no other elements than these been involved, sterling would almost certainly have been dearer, in terms of foreign currencies, this year than in 1928.

OTHER CURRENT ITEMS.

What, then, can be said of the so-called "invisible" current items in the balance of payments? It is impossible here to speak in terms of figures, but some tentative conclusions may be reached in answer to the question whether our receipts on invisible accounts are likely to have been larger or smaller this year than in 1928. Considering first the item of interest on overseas investments, it seems probable that, by the normal growth in the volume of capital invested abroad, Britain's net income should have been somewhat larger. In this respect, however, a good deal depends upon the relative scale of profits earned in speculative ventures abroad, such as rubber, tea and mining companies. It is impossible readily to form any definite opinion on this aspect of the question, while still less can be said as to the proportion of the total available income which has been actually converted into sterling. Nevertheless, taking these and other relevant factors into consideration, it seems unlikely that net interest receipts in sterling can have been much smaller—probably they have been somewhat larger—this year than in 1928. In addition, a more favourable balance should have been arrived at in respect of Government receipts and disbursements by reason of larger remittances to this country on account of reparation and inter-allied debts.

When we come to consider shipping earnings it is possible to secure statistical data which throw a more direct light on the position. The most useful figures in this connection are the Board of Trade returns of the tonnage of shipping with cargo entering or cleared from British ports, and the Chamber of Shipping index number of freight rates. On the first point, the total entries and clearances during the eight months to August 31, 1929 amounted to 86.4 million net tons, as compared with 82.3 millions in the corresponding period of 1928, while British vessels alone aggregated 57·0 millions as against 55.3 millions. The increase for vessels of all nationalities was thus nearly five per cent, and for British vessels alone about three per cent. Turning to the charges for the use of ships, it is found that the index number of freight rates prepared by the Chamber of Shipping was higher, on the average, by roughly five per cent in the first eight months of this year than in the corresponding period of 1928, though the increase occurred in the first five months a material decline being noted in the succeeding three months. Combining these facts, and allowing for disbursements in port, receipts from passenger traffic, and payments in respect of ships not touching British coasts, it seems probable that Britain's net shipping earnings this year have somewhat exceeded those for 1928. Here again, it should be noted, it is impossible to say whether a larger or smaller amount has been actually remitted home.

The other items of the current account call for only brief mention, since the two already

dealt with are far the most important. First, account should be taken of the item described by the Board of Trade as "short interest and commissions". The higher money rates in London and heavier calls on this centre for short-term financing render it likely that earnings on this type of business have been larger in 1929 than last year. Further, there is reason to suppose that insurance receipts should have expanded, though on the other hand severe losses have been sustained abroad. Finally, in any complete and accurate statement "miscellaneous receipts" would have to be considered. In this group fall income and outgoings on account of tourist and other travel business, as well as personal remittances, such as those by emigrants. Whatever may have been the movement in these two groups, however, it is unlikely that any decline in fact taking place in the net amounts transferred to this country can have been sufficiently large to offset the probable increase in the sums received on account of interest and shipping earnings.

On the whole, then, it appears fairly safe to conclude that the net income of this country on all invisible accounts during the period under consideration exceeded, or at any rate did not fall seriously short of, the aggregate figure for the corresponding part of last year. Combining this conclusion with that regarding commodity trade, it seems unlikely that Britain's international balance of current payments can have resulted in a smaller surplus in 1929 than last year. This being so, how are we to explain the persistent weakness of sterling, which has been the proximate cause of heavy losses of gold, leading to the recent rise in the Bank rate?

THE EXCHANGE PARADOX.

The problem, superficially, seems difficult to solve when the more striking features of the situation are recalled. According to the *Statist* monthly figures, the average London-New York exchange rate during the first eight months of this year was $4.8511, which compared with the much higher figure of $4.8741 a year earlier. Indeed, this year's average rate is even lower than that recorded for the corresponding period of 1926, when a figure of $4.8621 was arrived at, despite unparalleled industrial disturbances, serious disruption of foreign trade, and political uncertainty. This year, then, sterling has been consistently well below par; last year it was well above; while in 1926 it was only slightly below. What, then, are the forces, much stronger than industrial upheaval, that have produced such debilitating results?

In pre-war days it might have been supposed that exports of gold on so large a scale as those witnessed in recent months would have been sufficient to correct almost any conceivable exchange depreciation. The transactions this year, indeed, have been on an unusually large scale, for, while £ 32 millions of gold have been imported, about £54½ millions have been exported—a net outflow of £22½ millions, as compared with a net import of £1 million in the first eight months of 1928.

It is not unusual in discussions of the balance of payments to combine gold movements with the current items in the account in order to arrive at a balance representing the net amount available for investment abroad or the net amount borrowed from abroad, as the case may be. This procedure, however, is to a large extent an inversion of the facts. Newly-mined gold coming to this country for disposal is admittedly in a real sense part of our commodity trade. Much more significant, however, from the point of view of gold standard theory, is the fact that gold moves principally as a consequence of exchange variations, while exchange variations in turn are governed, not merely by the current items in the account, but by capital items as well. Gold movements are a direct consequence, while all the other items are determinants, of exchange variations. It is true that gold movements often exercise a reflex effect on exchange rates, but this is a secondary result, and the fact which places gold in a class by itself is that many movements of the metal would not take place at all but for a prior disparity between incomings and out-goings on current and capital accounts proper.

THE LOGICAL CONCLUSION.

So far, then, we have seen that on current account items alone sterling should have been stronger this year than last. It follows that the weakness in fact experienced must have been due to transactions on capital account more than neutralising the improved position on current account. The nature of the movements which have contributed to this result is well worth consideration. It has been suggested as probable, from an examination of the current items in the account, that the amount available for lending abroad in the first eight months of this year has been larger than a year ago. It now follows, from the additional fact of pronounced exchange weakness, that actual external loans of all kinds this year must have exceeded by a still larger amount those extended during the corresponding part of 1928.

The only statistical data available on the capital aspect of the subject relate to new issues of capital for use abroad, and on this account we find a heavy decline as compared with a year ago. According to our own compilations, issues for external purposes, excluding those for refunding, in the first eight months of this year amounted to £81 millions, as compared with £104 millions in the corresponding period of 1928. The figures are not conclusive, since it does not follow that action on the exchange coincided with the dates of issue of the various loans. The payments of calls may have been spread over longer times in 1928, while some of the funds raised last year may have been held in this country for longer periods than in the current year. Apart from this and other modifying factors, however, the statistical decline is so heavy as to suggest at the very least an appreciable restriction of sales of sterling arising from the utilization of the proceeds of external loans in this country. On account of new long-term loans, then, we find a probable relief to sterling occurring in the present year.

As to repayments of outstanding loans it is impossible even to hazard a guess, while little more is practicable with regard to sales and purchases of existing securities. On the one hand, the cheapness of sterling might have induced excess purchases of British-held securities, but the dullness of stock markets in this country in the latter part of the period would supply little evidence of such buying. Again, it is supposed that British investment trusts have been substantial buyers of American securities, though it has to be remembered that the vast expansion of American investment trusts may have given rise to a considerable buying movement in the opposite direction. Furthermore, a good deal of American buying of British-held securities must have taken place, particularly in the earlier part of this year, with the object of securing control of hitherto British owned undertakings. In the face of these and many other conflicting factors of relative yields and possibilities of profit and control it is impossible to form any very definite opinion as to the scope and direction of the Anglo-American trend, quite apart from the movements between Britain and other countries besides the United States. It can only be said, on balance, that little evidence can be adduced of any marked increase in British net buying of foreign securities, as compared with a year ago.

Short-term Over-lending.

The fact stands out incontestably, however, that Britain has been heavily over-lending, and if this has not been done on long-term account it must have taken the form of a too rapid increase in the net indebtedness of foreign countries to Great Britain on short-term account. Having arrived at this logical result, it is possible to adduce from the available facts that the increase has taken place in two distinct ways. It has been brought about, first, by large repayments of previously outstanding short-term loans to this country, and secondly, by heavy additions to the outstanding volume of short-term loans by Great Britain to other countries. In the first category must be placed the conspicuous Anglo-French movement of short-term funds. Large amounts of French balances formerly held in London have been liquidated, the owners of the funds having sold their sterling in order to obtain sorely needed francs. It must be remembered that roughly £19 millions of the Bank of England's total gold sales of £46 millions during the first eight months of the year may be attributed to French buying. It will be seen, therefore, that the process of liquidation has been pursued on a substantial scale. At the same time these facts give confirmation of the statement that a large proportion of our gold exports cannot be regarded as entering into the current account at all, since it arises directly from the repayment of previously outstanding short-term loans to this country, in the form of deposits in British banks and holdings of sterling bills.

Even allowing for the strength of this factor, however, it is clear that excessive new lending at short term by this country must have taken place in order to produce a weakness of sterling so persistent that large shipments of gold did not suffice to correct it. As an example of the connection between capital movements of this kind and gold shipments it need only be mentioned that more than £11 millions of the gold sold by the Bank of England in the first eight months of the year was attributable to German buying.

The Remedy and the Precaution.

The analysis and conclusion are significant in the extreme, in point of both theory and practical application. Considering first the application, it is clear that the weakness of sterling has been due, not to any condition of relative inflation in this country, but to the fact that the world has found it cheaper to secure short-term accommodation here than in other monetary centres, while those with short-term funds to lend abroad have found it less remunerative to place them in London

than elsewhere. From this it follows that no *strengthening of sterling could be achieved by* deflation, properly to be defined as a relative fall in the price level due to credit restriction. The volume of credit, indeed, may be maintained or even increased without in any way weakening the position of sterling. The only way in which an appreciation could come about, failing some wholly extraordinary factor, was by a closer approximation between the costs of borrowing in London and in other centres, particularly New York, accompanied *necessarily by more attractive returns upon* funds left in London as compared with New York. This result might theoretically have been *produced either by a fall in American lending* charges or by a rise in British. Actually the conditions have compelled resort to the second *course, with the result that accommodation to* British industry and trade as well as to foreigners, has been made unusually expensive. It is important to remember, however, that the London and New York money markets differ widely in structure, and that in consequence *little is to be learned from mere direct comparison* of official discount rates.

The vital consideration at the present time, however, concerns quantity rather than cost. It is a fact for comfort as well as guidance that a closed approximation of lending costs in the *principal centres, even though it has come* about through a rise in British money rates, can achieve its object without any contemporaneous credit restriction. It is a long-*standing error to suppose that higher money* rates must necessarily be accompanied by credit restriction. Actually, in pre-war experience the two have often gone hand in hand, but there is no good reason, particularly in the fundamentally different post-war conditions, why they should always do so. Indeed, in present circumstances there is very good reason why they should not. The position is not one of inflation. Consequently, adjustment of the exchange weakness, to the extent that it *can be achieved by action from this side, can* be accomplished by raising the cost of accommodation without curtailing the supply. In *this way the effects on domestic industry* of the process of restoring the external value of sterling can be minimized and the object *achieved with the least possible cost in terms* of economic activity.

THE THEORETICAL IMPLICATION.

In point of general theory the experiences of the present year provide an illustration of a *truth which in recent years has become crusted* over with accepted notions of price level relationships and variations in the balance of payments. We have seen that the weakness of sterling is attributable *solely* to over-lending by this country. It is a phenomenon of capital *movements*, and is quite dissociated from commodity trade, whether judged by statistics of imports and exports or of relative price levels.

The Government of Bombay have revised the rules for the award of special scholarships tenable at the Royal Military College, Sandhurst. The revised rules provide that candidates who may gain admission to the Royal Military Academy, Woolwich or the Royal Air *Force Cadet College, Cranwell will also be* eligible for these scholarships. Two special scholarships of the value of Rs. 3,000 per annum each, ordinarily tenable for 18 months, have been instituted, one primarily for Muhammadans and the other primarily for Marathas *domiciled in the Bombay Presidency including* Sind. When no suitable candidates from either or both of the communities for whom the scholarships are primarily intended to be reserved are forthcoming, both scholarships or scholarship so available may be awarded to a suitable candidate of the other community mentioned above or of any other communities domiciled in the Bombay Presidency including Sind. These scholarships are intended only for boys whose parents or guardians are too *poor to afford to pay the expenses of the col*lege education. The amount of the scholarship, *viz.*, Rs. 3,000 per annum is the maximum and the amount is liable to be reduced if the circumstances of the candidate do not justify its payment in full.

*Applications from candidates who seek ad*mission to a Cadet College in England, for the September and February terms, respectively, should be made to the Government of Bombay, through the Head of the School or institution last attended, and the Director of Public Instruction, Poona, on or before the 31st May and 31st October preceding. Candidates must belong to families of high social standing; preference will be given to those belonging to families whose members have proved their loyalty and martial spirit by coming forward readily for enlistment in the Indian Army.

Further particulars can be obtained from the Director of Public Instruction, Poona, or can be seen from the *Bombay Government Gazette*, Part I, of 26th September.

Canadian Trade and Finance.

Business Conditions.

Montreal, October 10, 1929.—It is generally acknowledged that the Canadian wheat crop of 1929 will not be much more than 50% as large as the crop of 1928, but according to the early inspection reports the grade will be substantially better. Last year there was only one car graded No. 1 Hard up to November 1st, and this year there were 332 cars of No. 1 Hard up to September 9th. The most recent report of the Board of Grain Commissioners states that approximately 50% of the cars inspected are grading No. 1 Northern and more than 90% are of contract grade. The protein content is averaging 2% higher than in the past two years.

Mineral production continues to establish new records: the value of the output for the first half of the year was 17% above the level attained in 1928. Copper production increased 23% and higher copper prices led to an increase of 68% in its value. The increase in the volume and value of nickel was 18% and 21% respectively. The half-year also witnessed an increase in the value of the production of gold, silver, lead, zinc and cobalt as well as in that of the fuels, including coal, natural gas, petroleum and peat. Development in the mining districts is being pushed forward on a steadily increasing scale.

In the paper industry, it is noted that consumption continues to increase more rapidly than the installation of new mill capacity. At the present time the mills are working at about 85% capacity. It is reported that new mills are to be constructed both in British Columbia and New Brunswick.

It has been predicted that the exceptional level of automobile production in the first six months of the year is likely to be somewhat off-set by lower output during the rest of the year. In other lines of manufacturing there was less than the normal decline in summer production, and reports from all parts of the country indicate that preparations are under way for maximum activity this fall. The employment index, which continues to establish new high levels over the corresponding months of previous years, reflects the continued expansion in manufacturing activity.

In 1928 the value of construction contracts awarded surpassed the level established in any previous year. The statistics for the first eight months of 1929 show that the value of the contracts awarded during this period are more than 20% in excess of those of the corresponding months of 1928. This continued expansion in building reflects the optimism with which the country looks toward future prospects.

Vancouver and the Oriental Trade.

The day has come when Vancouver must be numbered among the great ports of the world. Fifty different steamship lines now serve to carry Canadian products to every continent. Scheduled sailings are maintained to the important Atlantic ports of North America and there are direct shipping connections with Europe, Asia, Africa and Australia. In a period when other great ports have had difficulty in maintaining their pre-war volume of trade, traffic through the port of Vancouver has experienced steady growth. In 1913 there were 132 ocean-going vessels which visited this port and the number calling there in 1928 was 1,344, an increase of more than 900% in ten years. During the past year the total trade of the port had a value of $260,000,000, an aggregate so large that Vancouver, rather than San Francisco, is now considered the leading Pacific port of North America.

Situated on the terminals of two trans-continental railroads, and facing China and Japan at a distance of some 4,000 miles, Vancouver constitutes the Dominion's largest trading centre with the Orient. The growth of trade between the two borders of the Pacific will become an increasing factor in Vancouver's prosperity.

The rapidly increasing volume of trade between Canada and the Orient may be seen from Table I. The figures for each five-year period show approximately a 95% increase over the preceding period. The trade for the year 1929 is 50% greater than the average annual trade for 1924-28.

TABLE I.

Average Annual trade with China, Japan and Hongkong:—

1929	$94,265,449
1924-28	$60,071,231
1919 23	$31,804,745
1914-18	$11,022,538
1909-13	$ 5,910,467

When examining Table I it is well to bear in mind that there has been a very marked rise in prices since 1913 and, as a result, the figures show a greater increase in the value of exports and imports than is warranted by the actual increase in volume. Nevertheless, when due

regard is taken of this fact we are still faced with the remarkable expansion of trade between Canada and the Orient.

In recent years Japan has adopted western customs and methods of trading. They have come to use wheat to a much greater extent and, since they have a population of 83½ million distributed over an area of 460,000 square miles, there is not a great deal of agricultural land available for wheat cultivation. The resulting tendency is shown by the fact that in 1927 Japan grew 29,448,000 bushels of wheat and imported 17,139,000 bushels,—6½ million came from Canada. Besides wheat, there were 521,892 barrels of wheat flour shipped to Japan from Canada.

In the same year of 1927, woodpulp to the value of $5,965,079 was imported and of this Canada supplied 36.3%; lead amounted to $7,212,000, of which Canada's share was 55%; total zinc was $4,426,000, and Canada contributed 45%. These items give some idea of the type of Canada's trade with Japan. Thus in 1928, the total volume of Canadian exports to Japan was $32,957,162, of which unmanufactured items, such as wheat, logs, lead, zinc and fish, contributed $19,491,021 or 58%; partially manufactured, such as wheat flour, planks, squared timber, paper and aluminium account for $9,458,369, or approximately 3%, giving a total of 61% of the Canadian exports to Japan which consist of goods which are to be used in further manufacture.

The reason for the emphasis upon unmanufactured and partially manufactured in Japanese imports is to be found in the definite policy pursued by the Government in protecting Japanese industries. The erection of a stiff tariff of as much as 100% in some cases has had the desired effect, and foreign manufactures play a decreasing part in Japanese economic life.

China is as yet a smaller field for trade, due to the fact that she is torn by conflicting social forces. On the one hand, the conservatives resent the debasement of China's dignity, and on the other hand, the young Chinese are trying to abandon their past traditions of isolation and mediæval civilization. The result is a hindrance to trade not only internally but also with foreign countries.

Such industrial development as has taken place is confined very largely to the ports of Hankow, Hongkong and Shanghai. The last two named are controlled by foreigners who are responsible for the prominence taken by these places in the foreign trading relations of China.

TABLE II.

Showing comparison of total Exports and Imports for China and Japan :—

CHINA	1913	1925	1926
Imports	$416,219,000	$796,207,000	$854,408,000
Exports	$294,413,000	$652,137,000	$651,864,000
JAPAN			
Imports	$361,215,000	$1,120,271,000	$1,033,137,000
Exports	$311,741,000	$ 931,094,000	$ 907,402,000

The people of China are very largely agricultural, about four-fifths of them being engaged in farming. It is to be expected that they would be largely self-supporting and import little foodstuffs, but, due to the fact that the average density of population is about 230 per square mile, a fair trade in edibles is carried on.

They import some western wheat, but in varying amounts from year to year. Fish products play an important part in their import trade. Since there is so little manufacturing, we are not surprised to find that about 28% of their imports are manufactured articles, of which some 12% are food products such as sugar, wheat flour and salted or pickled fish.

The free port of Hongkong, the most important port in the Orient, does an annual aggregate foreign trade of about $1,000,000,000, although there are no exact figures available. Shanghai follows next with some $550,000,000 worth of foreign trade during the year. The inland port of Hangkow is third and Tientsin is fourth. As yet, the hinterland of China is not organized to any appreciable extent as far as foreign trade is concerned, and it is really only the coastal fringe of China which comes in contact with foreign countries.

It is of interest to note that the Orient has not increased the volume of its exports through diversification but through more intensive application. The principal commodities exported to-day are the same as those exported fifteen years ago. On the other hand, imports have become more and more diversified owing to the ever-growing need for a wider variety of manufactured products.

Aside from the fact that Vancouver is the natural gateway to the Orient there have been other forces which have contributed to her increasing commercial importance. To the recent expansion of the port the westward trend of wheat production has made a substantial contribution. While in 1907 the centre of wheat-growing lay in Manitoba, in 1912 it had moved into Saskatchewan and by 1928 it had again moved westward so that Alberta and Saskatchewan together produced 90% of the prairie's wheat. The growth in the shipments of wheat from the west coast has

necessitated the construction of new terminal facilities.

The publicity given to the port by the grain shipments has had the effect of bringing to the notice of prairie shippers of other commodities the advantages to be obtained by using the western route and commitments are being made for Europe and even for North American Atlantic ports from points as far east as Regina. This is particularly true during the winter months since foreign importers find it more expeditious to have their goods sent by the Pacific and the Panama Canal than to await the opening of the eastern ports. Some idea of the importance of the Panama Canal in Vancouver's trade may be gathered from the fact that out of a total of 95 million bushels of wheat shipped through the port in 1928, 61 went to Europe.

The expansion of mining and industry in the area surrounding Vancouver has been substantial. There has been a large influx of capital from Eastern Canada, the United States and Europe. Pulp and paper production is being developed; forest products generally are being utilized; mines of the coast recesses and the interior valleys are being opened up, while the large water power resources are being tapped and harnessed for a protracted programme of expansion.

Within the city itself some $50,000,000 worth of construction work is being planned or executed. New residential areas are being opened up rapidly and the tourist attractions of this district are becoming more widely recognized.

In the future, the buying power of Asia will be an increasing factor in world commerce. Trade with the countries of the Pacific will be an important factor in the import and export commerce of all parts of the world. In that day the port of Vancouver will play the stellar role in trade with the Orient and no small part upon the stage of international commerce.

Trade with Great Britain.

There is cumulative evidence of renewed interest on the part of the British public in the economic situation in Canada. This is best exemplified by the steadily increasing number of enquiries from British sources concerning the outlook for Canadian securities and by the increasing number of British financiers and statesmen who have visited the country during the past two years. It is only natural that British enterprise should seek a greater share in the benefits of the broad and stable prosperity of Canada. In view, then, of the general desire to foster trade between Canada and Great Britain, an analysis of the character and volume of the present trade may present facts which may prove of assistance toward this end.

A study of Canadian foreign trade shows that the expansion of the volume of both imports from and exports to Europe, the Orient, and the United States, has been more rapid than was that of the trade with Great Britain. In 1913 the value of exports to the Orient amounted to $2,653,000 and in the past twelve months they have amounted to $68,000,000. The exports to Europe in 1913 amounted to $16,466,000, and in 1929 the total exceeded $200,000,000. Exports to Great Britain in 1913 amounted to $170,000,000, and in 1929 to $429,000,000. The corresponding figures for exports to the United States are $139,725,000 and $500,000,000 respectively. It is true that a much larger proportion of Canadian exports to Europe are now sent direct and this has reduced the apparent value of both imports from, and exports to, Great Britain.

On the import side it may be noted that the total value of Canadian imports is now almost twice as large as in 1913. If we allow about 50% difference for change in price levels, this implies that the volume of imports is approximately one-third larger than before the war. Imports from Great Britain in 1913 amounted to $138,742,000 and in 1929 to $194,000,000. Making the same allowance for change in price levels that is made above, there has been a decline of about 10% in the volume of imports from Great Britain.

If Canadian imports from the United States are compared with those from Great Britain, it will be noted that Canada is now buying five times as much in the former market as in the latter. Such general statements have little meaning. Raw cotton for Canadian textile mills must be bought from the United States and the coal for the manufacturing industries of Ontario must come from the source where it can be provided at least cost. Automobile parts which are used in Canadian automobile plants, petroleum and fresh fruit are not items which may be bought from Great Britain, and yet the value of this small number of products is almost equivalent to the value of the total Canadian imports from Great Britain. It will require careful analysis of the items in which there is possibility of competition between Great Britain and the United States if means are to be found to increase British sales in Canada.

With this idea in view, a table was compiled showing items of which a substantial amount is imported from both sources. In addition to *giving the value of the Canadian imports*, this table shows total imports and also the general rates charged under the present Canadian customs tariff on these goods. It should be noted that there is already a substantial *tariff preference on goods from Great Britain.* An additional preference of 10% of the present tariff rate is granted when the goods are routed from Great Britain to Canada.

From this table it is evident that Canada buys a preponderant amount of wool, including *raw wool, noils and tops, yarns, carpets,* fabrics and wearing apparel in the British market. Tea, toys, oil-cloth, tin, lace, leather hats and caps, flax, hemp, and jute, cotton wearing apparel, fabrics and sodium compounds *are other items, a large proportion of which now* comes from Great Britain.

In general, it may be said that there are a number of difficulties to be faced by the British manufacturer who wishes to enter the Canadian market. *To the British, the distances in* Canada seem excessive and marketing costs out of proportion. The necessity for adequate service, and supplies of spare parts in Canada in connection with the sale of machinery have not always been fully recognized. Even *methods of financing are different from those* which prevail in Great Britain. There are a large number of items which Canadians buy on the partial payment plan that are bought for cash in the Old Country. Finally, the hundreds *of concerns from the United States* which have branch plants in Canada have, thereby, established close contacts which bring these manufacturers valuable information *concerning market conditions and the wants* and preferences of the Canadian consumer. In many lines, the only means by which it will be possible for the British manufacturer to compete on an advantageous basis will be to *secure an equally adequate approach to the Canadian consumer.*

Most general statements concerning the possibility of increasing British-Canadian trade do not give sufficient weight to the actual difficulties involved. Only a careful study of *the requirements of the Canadian market* and the limiting conditions which determine the volume of trade in each particular commodity is likely to furnish the basis for constructive development. If there should be a *succession of Empire conferences with a view* to working out the necessary adjustments to permit the increase in this trade, the effect would be more far-reaching than that secured from sudden and drastic changes. Canadians are enthusiastic concerning the future of Empire trade. The idea of British preference originated in Canada, and in Canada it has been carried further than in any other part of the Empire, but sane economic thought recognizes that the development of this relationship *requires slow, careful and persistent effort.* Constructive work is rarely spectacular. Sound development must be achieved after the careful study of ultimate relationships and by means of the deadly routine of a series of minor adjustments.

Synthetic milk made out of vegetables was the means used by *Dr. Ernest Tso, of Peking,* to give six Chinese babies a start in life. The great scarcity of cow's milk in oriental countries led Dr. Tso to search for a substitute. A milky liquid made of finely ground soy beans and water furnished the base for the vegetable milk. *Fifty per cent* of the total calories of the diet are from this milk. Additional foods given to the babies were canesugar, corn or rice starch, cod-liver oil, calcium lactate, sodium chloride and cabbage water. The *last three contributed the scurvy-preventing* vitamin C. persent in orange juice. Six infants, one from birth and the others a few weeks old, were successfully fed six to ten months on this diet. Their weight curves *follow the average weight curve of healthy* nursing infants in the United States as well as the average weights of several hundred Chinese breast-fed infants who visited the College dispensary for minor complaints. Their mental and muscular development and nutritional status in general appear to be as good as in normal infants reared on milk diets.

Mysore Economic Journal.

Here is the latest appreciation received by us. It is from Sir Frank Noyce, KT., C.S.I., C.I.E., I.C.S. :—

I think you have held up a wonderfully high standard in spite of difficulties.........I appreciate the way in which you have striven with a very uphill task. (Letter, dated Simla, 20th October, 1929).

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Indian Information Bureau in Berlin.

Work During the Half-Year.

Berlin, 15th September 1927.—The Indian Information Bureau in Berlin was opened formally on the 15th of February this year as a result of a decision of the Working Committee of the Indian National Congress, mainly for the purpose of giving Indian students wanting to go abroad for higher education, useful and reliable information about the opportunities for the same in Germany, and helping qualified students on arrival in a general way and to obtain admission into universities and other educational institutions. Experience had shown that ignorance of the possibilities held out by Germany for Indian students to obtain valuable instruction in a number of useful lines, and the absence of an institution capable of attending in a businesslike way to the requirements of the newcomers till they got fixed up, acted as two of the principal obstacles in the way of Indian students coming to Germany. It was, therefore, felt that if these obstacles and, along with them, also the mistaken conception about the language "difficulty" could be removed, more students would be found to take advantage of the opportunities offered by Germany. Universities and other educational institutions in Britain are overcrowded. Political circumstances make the atmosphere in Britain increasingly unfavourable for Indian students with few exceptions. America is too expensive and Asiatics are not particularly welcome in the United States. Opportunities offered by France and other European countries are comparatively limited. These considerations were behind the decision of the Congress to open an Information Bureau in Berlin.

The Indian Information Bureau has been in existence now for six months. The work done by the Bureau within this short period taking into consideration the initial difficulties connected with the opening of an institution, the limited means at its disposal and the opposition from also unexpected quarters, which all organizations unfortunately have to share, fully justifies its founding by the Congress. In a short report it is possible neither to enumerate all the achievements of this Bureau nor to dwell on the significance and importance of the Bureau for advancing the interests of India. We must limit ourselves to a few facts.

Since March, through the Bureau, and as a result of its activities, 17 students have come to Germany for higher education or practical training. This number does not take into consideration students from other European countries, particularly Great Britain, who have come to Germany on short visits and have availed themselves of the services of the Bureau. Out of the 17 students, 12 have come directly from India and 5 from Britain. According to communications to hand, 11 students are still to come: 6 from India, 4 from England and 1 from France. During the period of its existence, the Bureau has proved of use and help in all to 93 Indians, mostly students. The Bureau has arranged suitable lodgings for 15; obtained admission into schools or universities for 5; secured entrance for 7 for the language course; arranged free German lessons on an exchange basis for 4 students; obtained concessions for 2; supplied commercial assistance to 7 and introduced 4 students to professors. It has helped 18 persons to visit factories of various kinds in different parts of Germany. It has helped educationalists from India to see the schools in which they were interested; medical men to see hospitals and attend operations, and doctors and engineers interested in public health to see various kinds of municipal works. The Bureau has arranged for the practical training of 10 students: 2 in oil-refining, 4 for soap manufacture, 2 for photography and 2 for electrotechnics. During August alone, 9 students have approached the Bureau in connection with their practical training. Since the date of its opening the Bureau has received and answered 214 enquiries from India covering a very large range of subjects. During the same period it has issued 4 Bulletins, the last one in printed form. The publication of a Bulletin in printed form is an expensive matter and the Bureau has no special fund for this purpose. The last publication, excluding the postage charge, has cost the Bureau nearly 600 marks. A good part of this has been recovered by advertisements and a German professor interested in the work of the Bureau has donated a sum of 100 marks towards the expenses of the Bulletin. We hope that this kind act of the German professor will serve as an example to many Indians. As the Bureau is getting to be known it is being visited by a steadily increasing number for information and assistance as well as to read papers and periodicals. In March we had 12 visitors, in April 27, in May 34, in June 51, July 72 and August 183. The steady rise in the number of our visitors has shown us that it is both

Indian States and Railway Development.

It is pleasing to note that the Indian States are adopting an enlightened policy with regard to railway development. We referred some time back to the decision of His Exalted Highness the Nizam to purchase the Nizam's Railway and to the opening of feeder lines in the State. The Nizam, it is further reported, contemplates using the accumulated revenues of the State in embarking on a policy of development. Sir Frederick Gauntlett's services, it is reported, have been engaged to scrutinize the finances of the State and of the method of railway finance with special reference to the purchase of the Nizam's Guaranteed State Railway. In Baroda, likewise, a policy of extension has been planned. Under the new scheme in Baroda, it is stated that the existing lines will be connected with the interior of the rich forests of the State and with the Sea Coast. The new mileage is small but its importance lies in the policy underlying the extension. It shows that the Maharaja of Baroda will not stint money on railway schemes which are useful to the economic development of the State. Mysore is also following a similar policy.

Improved Persian Wheel.

In addition to the prize of Rs. 2,000 offered by the Punjab Government (Ministry of Agriculture) for the design (detailed scale drawings) of an improved Persian Wheel, details of which were notified in this *Journal*, Messrs. The Tata Iron & Steel Co., Ltd., Calcutta, have kindly offered an additional prize of Rs. 500 on the following conditions:—

(*a*) In the event of the design which secures the Government prize being made of steel sections such as the above-mentioned firm can roll, this design would get the prize of Rs. 500 in addition to the Government prize: and

(*b*) If the design which secures the Government prize should be constructed of steel sections such as the firm cannot roll, their prize of Rs. 500 would be awarded as a second prize to a competitor submitting a design made of rolled steel sections which the Tata Iron & Steel Co. can produce, provided that in the opinion of the judges the design in question is a very material improvement over existing Persian wheels.

In both cases the design would only be eligible for the award of this prize if its cost does not exceed Rs. 175. Drawings should be submitted to the Agricultural Engineer to Government, Punjab, Lyallpur, not later than the 15th February 1930.

Canada's Trade.

This month's Canadian letter first reviews current business conditions, then deals with Vancouver and its Oriental trade and ends with an analysis of the present character of Canadian trade with Great Britain. From the last of these, it is seen that despite the fact that Great Britain has been given a substantial tariff preference, there are only a few lines in which competition is keen. In the section dealing with the port of Vancouver there is a discussion of the factors which have made for the recent growth of the port and some suggestion of the opportunities presented by the development of Oriental trade.

English Cottage Garden.

"Wherever a rambler rose would have been planted in an English cottage garden there you will find that the Spanish peasant has trained a vine. Falling over arches and gateways, clinging to pillars and wreathed round fences, one sees a perfect riot of purple grapes bending the branches with the weight of their beauty. They droop low over my head as I sit on the terrace watching Catalina while she gathers figs from a tree that has sweeping branches suggesting the draperies of some beautifully poised *ballerina*. The leaves are turning yellow, and below me the pomegranate and the almond trees join hands at the challenge of the roving breeze, and toss their fragrance to the sunny skies. A tall palm, like a limp, green turbaned Nubian slave, stands sentinel beside the covered well and all is folded in quiet peace," so writes Lady Shepperd in the *Daily Mail*. If only people were alert and active, such a description can be made easily applicable to Bangalore.

The Indian Problem.

Mr. Arnold J. Toynbee, Director of Studies, Institute of International Affairs, London, gave an interesting account of his impressions of a month's tour in India. He said: "I have been passing through countries which are fragments of the great empires now broken up and divided for various reasons. Here in India, one finds the same situation as existed in the Ottoman Empire a century ago. The Ottoman Empire broke up with infinite loss and suffering because the various races and religions contained therein failed to learn how to live and work together. India is a big country which is still run on a big scale. It makes me wonder how it would be possible to bring together the different communities in this country. The vital question affecting India is the co-operation of these communities. I think it depends upon the younger generation to bring about the unity of India."

Medical Inspection of Girl Pupils

The Mysore Government have approved of a scheme of medical inspection of pupils in girls' schools by Lady Medical Officers. It is proposed to appoint a whole-time Lady Sub-Assistant Surgeon to look after the medical inspection of girls in both Bangalore and Mysore Cities, working one-half year in each of these places. In the District headquarter towns, the inspection will be assigned to the local Lady Medical Officer of the grade available. Inspection will at least be once a year. Municipalities, both city and town, are expected to contribute suitably towards the cost of the scheme.

Jadestone Export from Burma.

The Report on the Maritime Trade of Burma for the official year 1928-29 states that during the year shipments increased from 1,961 cwts. valued at Rs. 3.02 lakhs to 2,688 cwts. valued at Rs. 5.82 lakhs. As usual, China monopolised the trade—Hongkong taking 2,163 cwts. and the rest of China 523 cwts. The remaining 2 cwts. went to France.

Will our foreign readers and friends kindly note that our office is situated at Bangalore and not at Mysore. Our address is :—Editor, *Mysore Economic Journal*, 19, Gundopunt Buildings, Bangalore City, Mysore State, British India. The need for this request will be manifest when we state that the Secretary of a well-known College in London writes to state that he has been trying to get into touch with us for some time past and has been unable to do so. We much regret the inconvenience caused to him, the more so as his desire was to subscribe for this *Journal*, but we think if he had referred to the *Newspaper Directory* or to Willing's *Press Guide* he would have readily got our correct address. We are glad that our correspondent's letter has at last reached us and we have complied with his request with great pleasure.

A Channel Bridge.

There is a growing interest in the scheme for a Channel Tunnel. *Modern Transport*, commenting on the suggestion of a Channel Bridge, says that the construction of a tunnel is so generally regarded as the only means of physically connecting the opposite sides of the Straits of Dover that the scheme now propounded by Mr. Cleve Shaffer, of San Francisco, for bridging the distance affords an interesting reminder of the fact that tunnel proposals have, by no means, exclusively claimed attention. Earlier advocates of a bridge claimed that the construction of the requisite deep-water piers was not outside the realms of practicability once the funds for so stupendous an undertaking could be found, but Mr. Shaffer disdains so prosaic a design and submits a scheme which, though perhaps improbable of adoption, at least discloses a fertile mind, besides adding to the already long and interesting a story of proposals for uniting the coasts of England and France. Briefly, the scheme provides that close to the shore lines and in the shallower waters the bridge would be built on piers or solid jetties, but that in the deep-water channel the bridge would be supported on floating sections connected together and anchored. The bridge floor would be 53 ft. above water-level so as to be shielded from the fury of the heavy seas encountered in the Straits, whilst its width would accommodate four lines of road traffic and two lines of rail. Big vessels would pass through lifting spans one on each side of the Straits—while smaller craft would pass between the sections of the floating structure, where 100-ft. openings with 40-ft. headways would be available. How a sufficient state of equilibrium for the passage of rail traffic is to be maintained is by no means clear from the details available, though meanwhile it is suggested that in exceptionally bad seas the water around the floats would be stilled by the mechanically controlled release of oil. The capital cost of this project is quoted at eight million pounds so that the claim can at least be made of cheapness relative to a tunnel scheme. Indeed, Mr. Shaffer—who is responsible for bridge schemes at San Francisco Bay and the Straits of Gibraltar—contends that the Channel Tunnel is out of the question as a financial proposition and, in this connection, if not in his fanciful alternative, he will not lack supporters.

Wireless without Worry.

"Wireless for Women without Worry" might have been the slogan adopted by the organizers of the National Radio Exhibition at Olympia. Over eleven thousand people paid for admission on the opening day breaking last year's record by a large margin and the majority of the visitors were smartly dressed girls who assailed salesmen with highly technical questions and proved the best customers. Women, too, were evidently those whom the salesmen were determined to attract. Of half a round three miles of three hundred stands is a noticeably large proportion of gadgets and equipment designed to beautify the home with sets that can be coloured to suit individual requirements and sets containing compartments

for powderpuffs, lipsticks, writing desks or fitted vases for flowers. Women also need not worry about acid staining carpets and floors for the latest batteries have jelly-acid which will *not slop about*. There are all electric sets needing no batteries which can be plugged in a household lighting circuit like an electric iron: some two hundred varieties of portable sets: and radio-gramophones which reproduce records on loudspeakers by valve amplifiers. One of the most novel sets is a twenty push-button automatic set.

BE YOURSELF.

Be yourself and none other. Your letter should reveal to me your soul and not your library.—*Mme. de Sevigne.*

Topics in the Journals.

English Power Ploughs.

With cane sugar production the same as with sisal, we seldom write, says *Tropical Life* on the trials and troubles of the estate owners although, of course, we are very fully aware of what they are up against at times with regard to costs, especially with sugar below 2 cents c. and f. for Cuba 96 per cent to New York. This trouble of the monthly and yearly cost bills, and also of the worry that is always present regarding the labour forces, makes one wonder how the old-fashioned estates are still kept going or their new lands when brought into cultivation can be utilized at all, since in so many cases the areas to be planted are never properly cleared, the tree stumps and bush roots being left standing so that when animal ploughing is resorted to, the machines, sooner or later, come up hard against a stump and, being seriously damaged, have to be taken back to the central buildings for repair. This, of course, means loss of time and temper and, most important of all, an inadequate system of cultivation over the land as a whole.

With sugar at its present price, and at the level of values along which it is sure to run for some time to come, it is positive madness to think of running sugar production on a small scale, and when doing it on a large one, not to start with the latest labour and time-saving appliances for clearing the land of trees, roots, stones and other impedimenta of all kinds, so that your land can be power-ploughed and cross-ploughed in perfectly straight lines, and the seed-cane planted by the automatic planter run in the same straight direction. Doing so reduces costs to a minimum, for, later on, when the power cultivators come along to throw the earth up against the stools, or with rattoon canes to cut through the trash and sever the outlying roots from the parent stool (which is necessary if the old rattoons are to give forty tons of cane or more to the acre), the driver of the machine will have a clear course before him and so be able to put all his power and attention on to getting the exact amount of cultivation out of the machine (at the least cost of wear and tear) that the crop requires.

We would like to mention here that all this and much more can be done with English ploughing and cultivating machinery without going to America, which country, so many believe, can alone supply the heavy type of plough and cultivator that is required for the work under discussion. We are told of giant wheat fields in the Argentine, where the owners never dream of putting up their machinery over the winter because they reckon that one year's work takes all the "life" out of them so that new machinery will be required for the next year's campaign. If there is any truth in such a statement it would be interesting to know whose machines are used, for the writer can state without fear of contradiction that there is at least one farmer in existence who has twenty-three sets of English power machinery on his estate, none of them young chickens, and that two sets were only scrapped after being in use for over fifty years. [We can confirm this with respect to coffee machinery. "South America was a fine place for orders," one maker recently told us, "but now, no fresh estates are starting and the old ones are all provided with our machines which last for ever except for odd pieces that are easily renewed."—ED., *T. L.*] Even then many of the parts were removed and utilized on newer machines, because they still had enough life in them to justify such a thing. Those who are now thinking of opening up new areas of sisal land, or of replanting the older areas, will do well to remember this, and, above all, to give up thinking that because you may spend anything from £2,000 up to £7,000 on a complete set of machinery and tackle, it is only going to be used once or twice. In these days when the production of sugarcane or sisal or any other crop must be carried out on a large scale, a well-organized estate will be requiring the services of its tackle every year, either for opening up new lands first to clear it of its roots and impedimenta, and then to plough the cleared areas, and finally to prepare it later on by the machines for planting and replanting. This means that the machines not only must be housed and taken care of season after season when not in use, but that after the first expense, which must be included in the total cost of laying out the property, the saving of its work to the owner will be very considerable. In one case, at any rate, when an area of 1,800 acres was "cultivated" in order to instil fresh vigour into the rattoon canes, 21,600 tons more cane were reaped, being at the rate of 12 tons more to the acre, and this extra tonnage, when reduced to sugar, gave an extra profit of £7,850 to the owner, or at the rate of £4 7*s*. per acre, after paying all the costs of operating the plant during a period, we believe, of 150 days and of harvesting this extra cane and turning it into sugar for shipment. If we remember rightly, the total cost of this plant, delivered at the port nearest to the estate, was under £5,000 and if so, then this one operation paid for the machine and gave a net profit on that cost of 50 per cent, all of which is not surprising since this was done with English-made machinery that will last for years. If, therefore, those who are now busy

studying our book on sisal production, and others faced with the perplexity of producing sugar on the basis of less than 2 cents per lb. for Cuban 96 per cent, *will remember the above and check the statements* made for themselves, then they may be able, even at current prices, to sell as low as their keenest competitors if they are not actually able *to make a profit* (on sugar) at current rates. Perhaps in conclusion we might state that when the profit of £7,850 mentioned above was made, the sugar sold even then at only 2¼ cents per lb., so that it cannot be claimed that the price of the finished article went very far to help so useful an extra profit.

Coming to sisal, when thinking of replanting, we believe that the latest type of machine can sever two *rows of bolls and clear up the sucker growth and other* impedimenta at the same time. These can then be piled up into heaps, preferably, we should imagine, one long line of drying vegetation, and after being left as long as possible to get rid of the very full share of moisture they contain, can be burnt and the ash ploughed in without incurring much hand labour beyond piling up the bolls and suckers in the first place. Further details *will be found in our book*. We have not, however, penned these lines to advertise our work on sisal production but to instil five important points *into the minds of our readers*: (1) *Do not* "*skimp*" costs when starting your estate; (2) plant "large" (areas) and therefore look to power ploughs and tackle *to clear and cultivate your land*; (3) *buy such appliances* to last, they can easily be adjusted as improvements suggest themselves, and the longer you use *them the more you will grow to like them*; (4) *if you* want ploughs, etc., that will last, try the English makes. Last but not least, remember that you do not merely *wish to grow sugarcanes but to produce the maximum* of sugar at the least cost, and this can only be done by coaxing each cane to yield twice, if not three times, as much sucrose as his father and grandfather did before him.

Constitution and Functions of the Imperial Institute, London.

Under the provision of the Imperial Institute Act of 1925, the Institute has been reorganized and placed under the control of the Department of Overseas Trade. The Parliamentary Secretary of that Department is the responsible Minister and is Chairman of the Board of Governors. This Body consists of the High Commissioners of the Dominions and India, representatives of the Colonial Office and other Government Departments and of the Crown Agents for the Colonies, with additional members representing scientific and commercial interests.

Functions of the Institute.

The most essential function of the Imperial Institute is that of a Clearing House for collecting and disseminating information and for conducting through the appropriate scientific, technical and commercial organizations, enquiries and investigations regarding the raw materials of the Empire.

The purposes of the Institute, as defined in the first *schedule of the Act of 1925, are given below*:—

(1) To promote the commercial, industrial and educational interests of the British Empire.

(2) To collect and disseminate :—

(a) information relating to possible uses of and markets for new raw materials or semi-manufactured products;

(b) information relating to new uses of and markets for already known raw materials or semi-manufactured products;

(c) information relating to sources, production, supplies, cost, consumption and requirements of raw materials and semi-manufactured products and legislation relating thereto;

(*d*) information relating to the best means of increasing supplies or of creating new sources of supplies of such materials and products within the Empire;

(*e*) information relating to the best means of treating such materials and products and of preparing them for marketing;

(*f*) technical and scientific information bearing upon *the industries of the British Empire*.

(3) To advise on the development of the resources of the Empire in raw materials in order that such *resources may be made available for the purposes of* industry and commerce and of Imperial defence.

(4) To conduct in the laboratories of the Institute *preliminary investigations of raw materials* and, when it may be deemed advisable, to arrange for more detailed investigation by appropriate scientific or technical institutions.

(5) To collect samples of raw materials having a definite value in industry and commerce.

(6) To co-operate with other agencies within the Empire formed for similar purposes.

(7) *To maintain for public information* and instruction, in the exhibition galleries of the Imperial Institute, exhibitions illustrative of the resources and *development of the Empire and of its scenery, life* and progress, and, where practicable, to organize from time to time temporary exhibitions of a similar nature elsewhere.

(8) To do anything incidental to or conducive to carrying into effect all or any of the foregoing purposes.

Present Organization.

For the purpose of carrying on the work of the Institute two principal Departments have been established, *viz.*, a Plant and Animal Products Department and *a Mineral Resources Department*. An Advisory Council for each of these groups of products has also been appointed.

Advisory Council and Technical Committees.

The principal functions of the Advisory Council on Plants and Animal Products are to advise the Institute on all matters relating to the utilization of these groups *of Empire raw materials and to initiate schemes of* work which might be undertaken by the Institute. In order to facilitate the work, the Council has appointed a number of advisory technical committees to deal with special subjects.

The High Commissioner for India is represented on *the Advisory Council by the Indian Trade Commis*sioner who is also a member of some technical committees.

Intelligence Section.

This section of the Department deals with enquiries for technical and commercial information relating to the production, utilization and marketing of Empire *raw materials of plant and animal origin*. The section is also responsible for the collection and indexing of published and other information on plant and animal products as is likely to be of service in connection with the above-mentioned enquiries and the work of the Department as a whole.

INVESTIGATION SECTION.

This section undertakes the chemical and technical examination of Empire raw materials with a view to determining their composition and value and the possibility of their utilization in industry.

BULLETIN.

Information relating to the production and utilization of raw materials is disseminated through the medium of the quarterly Bulletin of the Imperial Institute which contains records of the principal investigations conducted for the Dominions, Colonies and India at the Imperial Institute, and special articles, notes and abstracts, chiefly relating to progress in tropical agriculture, the development of mineral resources and the industrial utilization of all classes of raw materials.

PUBLIC GALLERIES.

These galleries form a permanent exhibition illustrating the natural resources and scenery of the Dominions, India and the Colonies and life of people.

The Government of India make an annual contribution of £1,200 towards the expenses of the reconstituted Imperial Institute.

It is hoped that India will continue to make the fullest use of the facilities offered by the Institute. The Councils and the Committees are anxious to assist in developing the resources of the Empire and will welcome enquiries on any subject and on samples of any products of plant, animal or mineral origin.

The Institute is now in close touch with Government Departments and other institutions engaged in research, and materials requiring scientific investigation, or specialized enquiries, are promptly passed on for action to the appropriate body.

It is the desire of all connected with the Institute to assist to the utmost in developing the natural resources of the Empire.

Burma Rice and Paddy Trade Enquiry.

The following is an extract from the proceedings of a meeting of the Committee of the Burma Chamber of Commerce held on the 29th August, 1929 :—

On February 18th, 1929, a resolution for an enquiry into the rice and paddy trade of Burma was passed by the Burma Legislative Council. The resolution was accepted by Government and a Committee was accordingly appointed to enquire into the matter.

A letter was received from the Secretary of this Committee, inviting the Chamber to furnish any written statement likely to further the objects of the enquiry, and forwarding a schedule of some of the subjects falling within the terms of reference. Copies of this letter were forwarded to the rice exporting members of the Chamber for favour of any comments they might desire to make in this connection.

The Chamber's reply, dated the 8th August 1929, began by explaining the conditions which had led to the present position of the Burma Rice Trade, and to the greatly decreased demand from Europe for Burma rice, which might be directly attributed to War conditions. The trade was taken out of its usual channels. Indian rice was distributed practically through Government agency, very high prices were asked and quality was not maintained as under private trading. As a result when the war boom passed, all European dealers in Burma rice had to face very heavy losses and were sickened of the trade.

In the meantime, Western countries such as Italy, Spain and America, which had previously produced only small quantities of rice, barely sufficient for their own needs, saw their opportunity and grasped it. In 1914 the production of rice in these countries amounted to some 600,000 tons only; but the latest production figures were as under :—

	Tons.
Italy	700,000
Spain	350,000
America	800,000
Egypt	200,000
	2,050,000

There was no need to look further than these figures to account for the decreased demand for Burma rice in Europe. The high prices which obtained for some years after the war enabled these Western countries to continue their increased production, and unfortunately gave Eastern producing countries a falsely high idea of what they were entitled to expect for their rice. The fact must be faced that, whereas in 1914, the production of rice in the West was about 600,000 tons, it was now about 2,000,000 tons. Burma before the war had almost a monopoly of the supply of rice to Europe, but that position had now entirely changed. Burma could only recover her commanding position by economic competition and, unless this fact was realized and all possible steps taken to meet it, her position in consuming markets would grow worse instead of better. It might be mentioned that farmers in Italy received great help from their Government—Signor Mussolini had decreed a "Rice Day" once a week. In Spain there was an export bounty, but if low prices continued such support might become too costly for the respective Governments to continue it.

What had been said above had special reference to European markets. It was not, however, only in those markets that Burma had encountered competition. The other two chief exporting countries in the East, Siam and French Indo-China, had made considerable strides both in production and quality. Roughly, 1,500,000 tons of rice were now exported annually from Saigon, whilst Bangkok exported about 1,000,000 tons. Very severe competition had been met from Saigon in important markets like Cuba, and last year Saigon was also in direct competition with Burma in supplying the requirements of India. Another factor which had led to the present position of the Burma Rice Trade was the fact that, now that wheat was at its pre-war price level, and rice still remained far above it, wheat was becoming a serious competitor as a food in countries where rice used to be supreme. The growing importation of wheat both by China and Japan was entirely at the expense of rice.

There was one other factor in the present position which should not be overlooked, namely, the exchange ratio of 1s. 6d. per rupee. The fixing of this ratio, rather than 1s. 4d., had increased the cost of Burma rice to Europe by about one shilling per cwt. and at 1s. 6d. Burma obtained roughly Rs. 15 less per hundred baskets of paddy than she would at 1s. 4d.

To retain and improve her position, Burma must fight her competitors on their own ground. Her chief asset was her cheaper cost of production and this asset must be developed to the utmost. This, it must be realized, meant lower, not higher prices for paddy than had ruled during the post-war period, and it must be seen how this could be achieved without harm to the cultivators. The Chamber put forward the following as its opinion of the policy which must be followed to achieve the objects of enabling Burma successfully to withstand foreign competition in world markets :—

(1) Improved methods of agriculture and cultivation *which would lead to a larger yield per acre.*

(2) Improved quality of grain which would enable Burma rice to compete in higher price classes than at present.

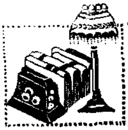
(3) The absolute necessity for shipping pure grain and not admixtures.

(4) The removal of the Rice Export Duty and or *the diversion of part of it to financing items 1 and 2.*

The Chamber gave a resumé of its views on the above subjects and referred to two more points. The first of these was the paddy-measuring basket. The Chamber was not fully persuaded as to the necessity for prescribing a standard basket to be used to the exclusion of all others. The capacities of the different baskets used in the various districts were well known, and sellers had no difficulty in converting them to the equivalent of the standard millers' basket of 9 gallons. If a basket was to be standardized, then the Chamber was most emphatically of opinion that it should be the 9-gallon basket on which millers' whole system of buying and giving of allowances for weight was based.

With reference to the question of the time of collection of land revenue, the Chamber stated that it was rather a subject for evidence by cultivators and by the Administrative Service, but to the Chamber it seemed obvious that the second half of the year was the most convenient time for the cultivators and for the trade as a whole, since money conditions were usually easier then than in the first half of the year.

The Chamber added that it would be prepared to give oral evidence before the Committee upon the above subjects, if the Committee desired it.



Books in Brief.

Short Reviews of Recent Books.

Pig Breeding in the Empire.

The Twelfth Report of the Imperial Economic Committee, just issued (H. M.'s Stationery Office. Price 6*d*. net), deals with Pigs and Pig Products. It emphasizes the great hold obtained on the main bacon market in the United Kingdom by foreign competitors who have concentrated on the production of a standardized type of pig and organized the trade in bacon on a national basis. Taste in pig products varies in different parts of Great Britain, but the Report stated that—

"A general change is in progress in the prevailing taste" . . . . "A liking for smaller and leaner cuts in place of fat heavy joints was becoming apparent in England in the latter half of the last century. The lean type of bacon and ham and the small cut of pork are now firmly established as the predominant requirements throughout the South of England. In the Midlands the demand is for a somewhat fatter product, and for sausages, pork pies and "processed" meats, whilst further North still fatter products find a ready market."

In spite of these local differences, the general preference for the lean type of bacon is growing. Danish farmers and bacon factories have concentrated on supplying this type.

Ninety years ago Great Britain was an exporter *of pig meat* but to-day is *dependent on imports for two-thirds of its supply. Nearly half the total imports, which altogether are valued at* £55,000,000 a year, consists of bacon from Denmark in which *practically only one type of pig, evolved largely* from the large White Yorkshire strain, is maintained. *Payments are based on weight and quality grades* and all exports are subject to constant and strict inspection. *The vast majority of pigs give dead-*weight carcases between 132 and 158 lbs, lower prices *being paid for carcases outside this narrow* range. Bacon so produced is marked in England as "Danish" and not under factory brands. *It is* all of the mild cured type and a very regular supply is maintained.

At present the whole of the overseas Empire contributes less than one-seventh of the total imports *of pig products into the United Kingdom. Canada* and the Irish Free State are the chief suppliers. *Since the War New Zealand has been developing a* very useful trade in frozen pork, both for sale as pork *and for curing into bacon. The consumption of pig* products in the United Kingdom, though below *those of Canada and the United States, has increased* since the War by about 50 per cent in weight and 100 per cent in value, due almost wholly to larger imports of lard, bacon and frozen pork. Foreign countries *have received almost the whole benefit of this expansion.*

The Report emphasizes the necessity for meeting consumers' tastes and of maintaining a regular supply. It contains a statement by representatives of both the bacon and pork trades of the characters to which the products should conform to meet the main market and of the breeds which yield carcasses of the requisite types. The Report points out the great possibilities which exist within the Empire. It expresses the definite opinion that these possibilities are unlikely to be realized without organization amongst the producers and the adoption by them and the curing industry of a joint common policy.

The Report advocates that entry into the herd books should be dependent upon commercial performance and not only on show points. It advocates further research into the problems of nutrition generally, but states that "from the point of view of the substitution of Empire products for those of foreign countries, perhaps the most fruitful line of research lies in the effort to make possible the carriage, without detriment, of mild cured bacon from the Southern Dominions."

Preliminary experiments conducted at Cambridge *on the freezing and cold storage* of bacon are full of promise. They indicate that with certain modifi-*cations of present practice the problems of transport* of mild cured bacon from the Southern Dominions *should be possible. The Report strongly advocates*

that those experiments should be continued and developed with a view to testing their results in commercial practice.

In spite of the large size of the import trade into Great Britain, supplies are drawn from comparatively few countries, the chief being Denmark, United States, Sweden and Holland. The trade from the United States consists mainly in lard and hams and it is possible that countries in the Empire producing large crops of maize might compete in that trade. The portions of the Empire in which possibilities at present are most promising are: the Irish Free State, Canada, Australia, New Zealand and South Africa.

The Report emphasizes that regularity of supply is essential for a steady trade.

"The idea that the top of the market can easily be caught by an 'in-and-out' policy is an illusion."

The Committee envisaged—

"A great problem—nothing less than the replacement of the foreigner by the Empire farmer in the main supply of the standard article to the British market."

For this, standards of size and quality, adequate quantity, regular supply and competitive prices are essential.

"The general effect of our Report may be summed up in the words—the mobilization of the producer."

"The benefits to the small farmer of a successful pig industry are so obvious as to justify, in our opinion, a great co-operative effort involving the farmers and traders of the Empire and, indeed, the Governments."

Fourteen Experiments in Rural Education.

Described by various authors and edited by A. B. Van Doren, Educational Secretary, National Christian Council of India, Burma and Ceylon. Association Press (Y.M.C.A.), 5, Russell Street, Calcutta. Price Re. 1-4.

That a second edition of this highly suggestive and fecund volume should have been called for within a year of its first publication is witness to its utility and character. Mr. K. T. Paul, who writes an appreciative "Foreword," emphasizes upon its "experimental" nature. That may be so; but that does not detract from the importance to be attached to its contents. It is the essence of the thing when we say that it provokes thought and discussion on a vital subject—rural education. Education may be costly but ignorance is more so. Hence the imperative need for thinking out new methods and new schemes of education that will meet the urgent requirements of this vast country. If its educational problem could be satisfactorily solved, much will have been done for its social and political amelioration. It is here that this little volume fills a lacuna. We do not feel that in the case of a book of this kind a critical estimate of its several parts is at all called for. It is enough to state that the fourteen experiments are set out in a simple and convincing manner and the reader is left to form his own opinion on them. We may add that of these experiments three deal with boys' schools based on the Project Method; three with rural schools for girls and three more on miscellaneous experiments (such as co-education, village supervision and reclaiming criminals through education). Here is something for those wishing for considered schemes for inaugurating rural education on a scale commensurate with the needs of the country. Both the Editor and Mr. Paul deserve to be warmly congratulated on the happy thought that is responsible for the production of this book. The Fraser Commission on Village Education has thus justified itself and let us hope that it will prove the harbinger of glory dear to India. For what can be of greater value to Rural India than its education?

Insurance Vade-Mecum.

By S. L. Tuli. Messrs. The Insurance Publicity Co., Ltd., 10, Nisbet Road, Lahore. Price Rs. 3 net.

Mr. Tuli, the editor of the *Insurance Review*, deserves to be warmly commended for compiling and issuing this book. It is described as "a companion for the insurer and the insurant, the agent and the manager", and so it certainly ought to prove itself helpful. It is divided into three parts: (*i*) Educative, (*ii*) Statistical, and (*iii*) Informative. The information included under each of these heads is both comprehensive and, so far as we have been able to judge, accurate. Part III contains, we should add, a fairly full "Who's who in Insurance". All the parts are well written evidently with a desire to prove helpful to the parties for whom the information is primarily intended. For a first attempt, the *Vade-Mecum* is quite a good one and ought to command a wide sale in Insurance circles. From the public point of view, we should like to see the need for insurance pressed home more thoroughly from the point of view of (*a*) the individual, (*b*) the family, and (*c*) the State. The statistical point of view deserves to be strengthened by the addition of information bearing on comparative data. We would suggest the opening of a new section IV headed *The Public and Insurance*, in which all information of this kind should be brought together. It is then and only then that our people are likely to understand the real principle involved in Insurance and help to make it go forward. It is then and then only they will grasp why European and American companies seek asylum here and why Indian companies should thrive. We should like to see this book bettered in other ways as well. It should be better printed; its advertisements should not be allowed to get confusingly into its reading matter pages whatever may be the position from the publicity point of view; its proof-reading should leave little or less to be desired; its information improved on the lines above indicated; its price should be lowered and it should be provided with an Index. A book that has the making of a hardy annual.

Articles in the Reviews.

The Oil Content of Malayan Estate Copra.—*Malayan Agricultural Journal*, Sept. 1929.

UNDER ISSUE.

A Volume of Essays.

Under the title of *The Missing Muse* Hodder & Stoughton will publish Mr. Philip Guedalla's first general collection of essays since 1924. The book contains Mr. Guedalla's thoughts and opinions on such widely diverse subjects as History, the English novel, the movies; a full-length study of the General Strike; portraits of Mr. Churchill, Lady Astor, Lord Haldane, "Jix," Mr. Belloc; "Period Pieces," "Life Studies," essays "Personal" and "Critical". The whole collection of over 30 papers is introduced by a "Conversation with a Caller" on the writing of essays, a delicious example of the art of parody.